

ATTACHMENT 1
Waste Analysis Plan

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EXHIBIT 41

§9.10b)5)

QUALITY ASSURANCE AND QUALITY CONTROL

I. INTRODUCTION

As indicated in the EPA reference manual, SW-846, Section 10, "Quality Assurance (QA) is a system for ensuring that all information, data, and resulting decisions compiled under a specific task are technically sound, statistically valid, and properly documented. Quality Control (QC) is the mechanism through which quality assurance achieves its goals. Quality control programs define the frequency and methods of checks, audits, and reviews necessary to identify problems and dictate corrective action, thus verifying product quality."

The QA/QC program for the Dow Hazardous Waste Analysis Plan has been developed based upon four fundamental principles:

1. Responsibility for quality assurance must extend to all levels of management.
2. The specification of the quality of data must be explicit.
3. The program must have adequate steps to assure that data of the needed quality are obtained.
4. Implementable and effective corrective actions must be taken when the data are of unacceptable quality.

The Dow QA/QC program addresses all of the activities which occur during monitoring and waste characterization, including: sampling, analysis, data reduction, data interpretation, and data reporting. The QA/QC program is integrated with other Dow analytical data management systems.

The Hazardous Waste QA/QC plan incorporates the following two major technical areas of monitoring activities:

Aqueous Monitoring

Solid Waste Monitoring

The QA/QC program for each of these categories is described in the following sections. The programs have been developed considering the Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans (QAMS-005/80; EPA, 1980) and SW-846.

Dow is committed to establishing and conducting an effective QA/QC program for Hazardous Waste Analysis. QA/QC procedures are already in place associated with other Dow Louisiana Division projects. These existing procedures and/or other improved procedures have been implemented where appropriate for the Dow Hazardous Waste Analysis Plan.

II. QA/QC ORGANIZATION AND RESPONSIBILITY

The Quality Assurance organization is an integral part of the Dow Chemical Company. Each source of monitoring data for the Dow Hazardous Waste Analysis Plan will have a leader who has the responsibility to insure that the data generated in his lab meets the QA/QC criteria specified. The sources of data are:

- 1) Contract labs.
- 2) Analytical services lab of the Environmental Control Department.
- 3) Analytical services lab of the Research and Development Department.

These data sources cover the two major technical areas of monitoring activities listed above. The monitoring leaders will be responsible for insuring that all tasks associated with sample analysis, data reduction, and data validation are conducted according to the appropriate QA/QC procedures.

III. AQUEOUS, SLUDGE, AND SOLID WASTE MONITORING

Aqueous monitoring will consist primarily of groundwater monitoring which will be conducted at locations specified in the groundwater monitoring program outlined in Chapter 18.

Solids and sludge monitoring will consist primarily of solid waste collected from each of the regulated units.

A. QA Objectives for Measurement Data

The objectives for a good QA/QC program depend upon demonstrated accuracy and precision for each method used in analyzing the samples for environmental hazard effects. Data quality objectives cover two distinct stages in the analysis program:

1. Operator precision and accuracy for the methods, and
2. Precision and accuracy of the methods for the given sample media.

Operator precision and accuracy statements for the analytical methods used in SW-846 will be determined prior to the analysis of any samples. This will demonstrate the analysts capability to generate quality data using specified methods. Precision and accuracy of the methods for the given sample matrix will be developed and maintained. The procedure for developing precision statements involves duplicate analysis. Accuracy statements are generated by spiking solids, sludges, and aqueous samples where applicable, with internal and surrogate standards of known concentration. Most of the methods listed in SW-846 do not have published performance criteria. In this case, all methods used by Dow will pass through the internal review procedure which exists for methods which are used to produce data that are released outside the company. Other methods will be validated by contract laboratories to equivalent specifications and both the methods and the validation will be reviewed by Dow personnel.

The following equations are used for the calculation of precision and accuracy:

Precision Quality Assurance Data

Sample I.D.	Concentration in Duplicate A	Concentration in Duplicate B	% Difference $(2 \frac{(A-B)}{(A+B)} \times 100)$	Date/ Analyst	Remarks
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Accuracy Quality Assurance Data

Compd. on Subs. Added	Amt Added (A)	Amt Added (B)	Conc. Found (C)	% Recovery $(\frac{C}{A+B} \times 100)$	Date/ Analyst	Remarks
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Other independent factors which are used for the calculations of the components of interest (i.e., weight of soil extracted, etc.) are used in the actual calculations of the concentration of the parameters. These concentration values are then used in the formulas above.

B. Sampling, Analytical and Data Management Procedures

The specific procedures for sampling, analysis and data management are presented elsewhere in the Hazardous Waste Analysis Plan. Preparative and analytical methods are shown in Exhibit 1 and detailed in the methods found in SW-846.

C. Sample Custody

Samples will be subject to a Hazardous Waste Analysis tracking system. This system will involve the preparation of tracking documentation for all samples from the time the sample is collected through laboratory analysis. Three basic tools will be used for sample tracking:

- ..Sample labels
- ..Field tracking record book
- ..Laboratory analysis report forms

Exhibit 2 illustrates the sample label that will be used in field identification of collected monitoring samples as recommended in SW 846. These labels will be prepared in advance of field sampling and will be attached to samples immediately upon collection. Information on sampling time, analytical parameters, and any pertinent remarks on sampling location conditions will be entered on the label when the sample is collected. The field sampler is responsible for the custody and care of the collected samples until the samples are received by the appropriate analytical laboratory.

A serially numbered data book will be used to record pertinent information about a samples location, source, sampler's initials, date, and identification. The samples to be collected in the field will be listed in the data book in advance of sampling. As the samples are collected, the time of collection and the initials of the sampler will be entered in the data book. Upon delivery of samples to the laboratory, this log will be checked to assure that all collected samples have been delivered. Samples delivered to the lab will be logged in the analytical lab's log book. The samples will be assigned an analysis number used for identification. The responsible individual will initial the form when analysis has been completed.

D. Calibration Procedures and Frequency

The instruments used in analyzing monitoring samples will be calibrated in accordance with the manufacturer's instructions and the method referenced on a regular schedule. The analytical methods used have specific calibration procedure requirements needed for each analytical method. A daily calibration check is performed prior to each analysis to confirm the instrument's calibration. Calibration checks are recorded in a serially numbered data book. Spectrophotometric and reagent grade chemicals are used as well as certified NBS and EPA standards for the methods referenced.

E. Internal Quality Control Checks

The Dow Louisiana Division analytical laboratory utilizes a variety of quality control methods to regularly evaluate the effectiveness of its analytical procedures. These control methods are listed below. For each control method, a description is provided explaining how and when Dow uses these techniques in carrying out a laboratory analytical program on a set of samples.

1. Duplicates (or "field replicates") - Duplicate analysis is defined as multiple analysis for the same characteristics, performed on aliquots of the same sample from the same bottle simultaneously, for the purpose of evaluating the precision of the analytical method. A general rule of 10% duplicates, or one per set, will be followed.
2. Spiked Samples - The use of field spikes into the sample matrix is desirable, but for many environmental analyses is not practical. Laboratory spikes into the sample matrix will be performed when practical. Surrogate compounds or internal standards will be made for all organic analyses. Spikes into reagent water will be made when field or lab spikes into the matrix are not practical. A general rule of 10% spikes or one spike per sample set will be followed.
3. Replicate Measurement - Defined as two analyses of a single sample. Generally 10% of the samples of a set or a minimum of one per set will be analyzed in duplicate.
4. Calibration - The calibration function (linearity) will be adequately defined during method validation. The amount of daily calibration required will be adequately described in the QA/QC program.
5. Source and/or Purity of Standards - Standards will be of highest quality available, either NBS or equivalent.
6. Control Charts - Such parameters as instrumental response (sensitivity), spike recoveries, response factors, and duplicate deviations may be amenable to quality control charts.
7. Blanks - Generally there will be one field blank per sample set. Lab blanks will be analyzed initially for instrument calibration. Field blanks are analyzed with the samples and lab blanks are analyzed again after samples of high concentration are run. This ensures that the equipment has been properly decontaminated.

E. 7. (Continued)

The frequency of field blanks can be reduced when the sampling/analysis is performed often (i.e., one blank/week) and the sampling/analytical system has been shown to be under control.

F. Performance and System Audits

In a system audit, a qualitative on-site review is conducted of a laboratory's quality assurance system and its physical facilities for carrying out sampling, calibration, and measurement. System audits include a careful evaluation of all field and laboratory quality control procedures.

Dow will conduct a system audit on an annual basis to assure optimum system operation. Dow anticipates using other Dow laboratories to independently conduct the audit and provide a report on the adequacy of the overall quality assurance system for hazardous waste monitoring. Regular adjustments will be made in the QA system as necessary to maintain the capability to provide accurate and reliable monitoring data.

G. Routine Procedures For Assessing Data Quality

Dow will conduct regular assessments of the quality of data precision, accuracy, and completeness. These assessments will be conducted to determine if the QA/QC objectives are being met.

1. Precision Statement - Precision estimates will be calculated by analyzing samples in duplicate, calculating the mean, percent deviation, and calculating the standard deviation of the percent deviation.
2. Accuracy Statement - Accuracy evaluations will be conducted for appropriate parameters by analyzing samples spiked with a standard solution for the parameter in question. The percent recovered will be determined.

H. Corrective Action

The procedures discussed above for internal quality control checks, and system audits, and routine procedures for assessing data quality may indicate that QA/QC objectives are not being met for some aspects of monitoring. In such instances, corrective action will be implemented to facilitate meeting QA/QC objectives.

QA/QC EXHIBIT 1

ANALYTICAL PARAMETERS, CONTAINERS,
PRESERVATION, AND ANALYTICAL METHODS

<u>PARAMETERS</u>	<u>CONTAINER</u>	<u>PRESERVATION</u>	<u>ANALYTICAL METHOD</u>
Organics (Semi-volatile; non-volatile)	Glass	Refrig., <4°C	SW-846
Volatile Organics	Glass	Refrig., <4°C	SW-846
Inorganics Aqueous*	Plastic	HNO ₃ , pH <2	SW-846

*(For aqueous media, see section on groundwater - Chapter 18)

QA/QC EXHIBIT 2

Collector _____	Sample No. _____
Place of Collection _____	

Date Sampled _____	Time Sampled _____
Field Information _____	

(Chlor-Alkali II Plant (CA II))

This section describes the chemical and physical nature of the hazardous wastes stored in the CA II surface impoundment and the waste analysis plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling.

Description of Operation - Wastewater from the CA II Plant is normally discharged through an internal NPDES-permitted outfall. Normally this effluent is between 6 - 9 pH. If at any time, however, the effluent exceeds 12 pH, the waste stream is automatically diverted to the surface impoundment. The contents of the impoundment are then gradually pumped through the plant neutralizing facility and finally discharged at the correct pH. The impoundment is generally maintained at its minimum level (10%).

Waste Characteristics - The CA II Plant has a well-trained process chemist/engineering staff responsible for the efficient operation of all processes occurring at that facility. These staff people are thoroughly familiar with all aspects of the operations and completely understand the chemistry of each reaction involved. These reactions are often quite simple, notwithstanding their large scale, and process knowledge is sufficient to identify and characterize the waste streams from the process. In many cases, they may be hazardous only because of a characteristic (e.g. acidic, basic, or ignitable). In other cases, they are hazardous by definition (listed wastes). However, when additional information is deemed necessary in order to treat, store, or dispose of a waste, then analysis by EPA-approved methods is employed. See Exhibit 1-A for a description of the waste stored at this facility.

CA II effluent having pH greater than 12 is diverted to the impoundment via a pipeline. This wastewater flow averages three million gallons/month and contains an average of 0.10% lb/gal of sodium hydroxide (caustic) for a total of 302,400 lb of caustic per month. Previously developed and published data on essentially all product and by-product wastes can be referenced through Material Safety Data Sheets (MSDS) that are available at each of the plant handling those wastes or mixtures of such. See Exhibit 1-B along with any pertinent MSDS sheets.

The only analysis required to know how to properly manage this waste is pH which is continuously monitored by redundant pH probes at the plant NPDES outfall. Only wastewater with pH greater than 12 is diverted to the impoundment so pH is not routinely run on waste in the impoundment. All effluent stored in the impoundment is neutralized and discharged through a permitted outfall which is measured continuously.

Waste Analysis Plan - Because the only waste stream at this facility is wastewater with high alkalinity, the only parameter chosen is pH. See Exhibit 1-C for an explanation of parameters, rationale, test methods, and sampling methods.

The QA/QC procedures are submitted as an exhibit to the overall Waste Analysis Plan located in Section 1 of the Waste Analysis Plan.

CA II - EXHIBIT 1

59.10b)

WASTE ANALYSIS PLAN

CA II PLANT SURFACE IMPOUNDMENT

A. BASIS FOR HAZARD DESIGNATION

<u>Waste Description</u>	<u>Hazard</u>	<u>Basis for Designation</u>
CA II Effluent	Corrosive	pH > 12.5 D002

B. WASTE ANALYSIS

<u>Waste Description</u>	<u>Characteristic</u>	<u>Constituent</u>	<u>Concentration</u>
CA II Effluent	Corrosive pH > 12.5	NaOH (See Page 2 for details)	0.101 lb/gal

C. WASTE CHARACTERIZATION

<u>Waste Name</u>	<u>Parameter</u>	<u>Rationale</u>	<u>Test Method</u>	<u>Sampling Method</u>
CA II Effluent	pH	Corrosive pH > 12.5	Electrometric Direct Meas. (SW-846)	In-line pH probe

TYPICAL WASTE ANALYSIS

Hazard Component:

NaOH _____ 0.101 lb/gal

Typical Waste Characterization Analysis After Neutralization:

Sp. Gr.	_____	1.04
pH	_____	7.3
Total Alkalinity	_____	0.400
Na ₂ CO ₃	_____	0.200 GPL
NaHCO ₃	_____	0.600 GPL
NaCl	_____	30.0 GPL
H ₂ O	_____	Balance

SOLVENTS PLANT

This section describes the chemical and physical nature of the hazardous wastes stored and treated at the Solvents Plant and the waste analysis plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling, storage in tanks, and treatment by incineration.

Description of Operation - The Solvents Plant handles several waste streams which are "listed" hazardous wastes. Most of these wastes are stored in tanks prior to being incinerated in the Solvents Plant thermal oxidizer unit. Some streams, however, are fed directly into the incinerator. There are seven tanks which store listed hazardous wastes.

Waste streams normally come from eight different sources. Five of these are from routine plant operations while three are from sources which may vary from time to time, but are mixtures similar to the other six streams. Refer to Exhibit 1 of this section for a schematic diagram showing the eight waste streams and their associated storage tanks.

Waste Characteristics - The Solvents Plant has a well-trained process chemist/engineering staff responsible for the efficient operation of all processes occurring at that facility. These staff people are thoroughly familiar with all aspects of the operations and completely understand the chemistry of each reaction involved. These reactions are often quite simple, notwithstanding their large scale, and process knowledge is sufficient to identify and characterize the waste streams from the process. In many cases, they may be hazardous only because of a characteristic (e.g. acidic, basic, or ignitable). In other cases, they are hazardous by definition (listed wastes). At a minimum a heat of combustion analysis shall be performed annually. The wastes described in this section are "hazardous" because they are listed on the "P" and "K" list. Each "P" and "K" type waste has been listed by the agency because these streams are known to contain certain hazardous constituents. The waste streams incinerated in the Solvents Plant incinerator are from continuously controlled processes in the Louisiana Division. In each of these waste-generating processes, sample analyses of several streams are done for process control. These analyses identify all of the constituents generated in the process and yield information adequate for determining the constituents in each waste stream along with the ranges of concentration of each constituent. See Exhibit 2 of this section for a description of the waste streams managed at this facility.

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SOLVENTS PLANT
PAGE 2

The composition of the waste streams in Exhibit 3 of this section will vary significantly depending on plant operations. The chloride load does not vary a great deal. Since the hazardous waste streams are heavily chlorinated, the maximum chloride composition indicated on the Waste Characterization Sheets will be used to ensure that Dow does not exceed the chloride load specified in the proposed permit limits (Solvents Trial Burn Results, Chapter 5).

Most of the information that is needed to store and treat these wastes has been obtained by process knowledge. Previously developed and published data/characteristics on essentially all products and by-product wastes can be accessed through Material Safety Data Sheets (MSDS) which are available at the plant. All of the wastes managed at this facility are chlorinated organics. Composition and/or analyses of these waste streams, to the extent they are known, are provided in Exhibit 3 of this section.

Since the processes that generate these waste streams are tightly controlled, significant changes in waste stream content do not occur. All processes and their waste streams will be recharacterized annually including analysis of BTU/lb to ensure that the designation of the listed waste is still appropriate and that the wastes are managed accordingly. Waste review or analysis is also repeated any time there is a change in the process which is likely to have an effect on a waste stream.

Because these waste streams are from continuously controlled processes, the composition of the waste is fairly constant and can be predicted based on process knowledge. The parameters chosen for verification are various sets of chlorinated organic compounds known to be present in each waste stream. These generally are the same components that caused the waste stream to be "listed" as a hazardous waste.

See Exhibit 4 of this section for an explanation of parameters, rationale, test methods, and sampling methods.

As stated earlier, process and waste stream characterization is done annually or more frequently if there is a significant change in the process.

The QA/QC procedures are submitted as an exhibit to the overall Waste Analysis Plan located in Section 1 of the Waste Analysis Plan.

Revision #2
November 21, 1986

EXHIBIT 45

(Exhibit 2)

§9.10a)1)

BASIS FOR HAZARDOUS DESIGNATION

SOLVENTS PLANT

Waste Stream Number	Waste Description	Hazard	Basis for Designation
1	Solvents heavies	Toxic	Listed waste F024
2	EDC I heavies	Toxic	Listed waste K019
3	Sumps	Toxic	*
4	Steam stripper	Toxic	*
5	Process draindown	Toxic	*
6	Hexes	Toxic	Listed waste K016
7	Hexes	Toxic	Listed waste K030
8	Chlorine taffy	Toxic	Listed waste K073

*Mixtures of listed wastes; combinations of: F024, K016, K020, K030, and K073.

Revision #2
November 21, 1986

EXHIBIT 45

(Exhibit 3)

(Page 1)

(9.10a)2)

WASTE ANALYSIS SHEET

SOLVENTS PLANT

WASTE NAME: Solvents Heavies WASTE STREAM NO. 1

HAZARDOUS WASTE NO. F024

SOURCE: Heavy ends from the production of chlorinated aliphatic
hydrocarbons, C1 through C5

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration		Process Knowledge	Analysis
	Typical	Range		
Carbon tetrachloride		10-35%		X
1,2-Dichloropropane		30-50%		X
1,1,2-Trichloroethane		5-30%		X
1,1,2,2-Tetrachloroethane		5-30%		X
Miscellaneous		0-1%		X

Other Information:

Chlorine content	70-85%
Sp. Gr.	1.4-1.5
Viscosity	1.0-1.2 cp
Heat of combustion	3500 BTU/lb
Reactivity	Stable

Revision #2
November 21, 1986

EXHIBIT 45

(Exhibit 3)

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§9,10a)2)

WASTE ANALYSIS SHEET

SOLVENTS PLANT

WASTE NAME: EDC I Heavies WASTE STREAM NO. 2
HAZARDOUS WASTE NO. K019
SOURCE: Heavy ends from the distillation of ethylene dichloride in
ethylene dichloride production

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration		Process Knowledge	Analysis
	Typical	Range		
1-Chloroethane	0-2%		X	X
EDC	70-85%		X	X
1,1,2-Trichloroethane	10-50%		X	X
1,1,2,2-Tetrachloroethane	5-50%		X	X
Penta-chloroethane	0.5-5%		X	X
PCBs	302ppm			X

Other Information:

Chlorine content 70-85%
Sp. Gr. 1.5
Viscosity 1.3 @ 60°F (cp)
Heat of combustion 3000 Btu/lb
Reactivity Reacts with free chlorine

Revision #2
November 21, 1986

EXHIBIT 45

(Exhibit 3)

(Page 3)

{9.10a}2}

WASTE ANALYSIS SHEET

SOLVENTS PLANT

WASTE NAME: Hexan WASTE STREAM NO. 6

HAZARDOUS WASTE NO. K016

SOURCE: Heavy ends or distillation residues from the production of
carbon tetrachloride

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration		Process Knowledge	Analysis
	Typical	Range		
Hexachloroethane	10-40%		X	X
Hexachlorobenzene	30-70%		X	X
Hexachlorobutadiene	5-20%		X	X
Perchloroethylene	5-20%		X	X
PCBs	211 ppm			X

Other Information:

Chlorine content 75-85%
Sp. Gr. 1.5
Viscosity 0.7-1.0 cp
Heat of combustion 2500 Btu/lb
Reactivity Stable (saturated with free chlorine)

Revision #2
November 21, 1986

EXHIBIT 45

(Exhibit 3)

(Page 4)

\$9.10x2)

WASTE ANALYSIS SHEET

SOLVENTS PLANT

WASTE NAME: Hexes WASTE STREAM NO. 7

HAZARDOUS WASTE NO. K030

SOURCE: Column bottoms or heavy ends from the combined production of
trichloroethylene and perchloroethylene

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration		Process Knowledge	Analysis
	Typical	Range		
Hexachloroethane	10-40%		X	X
Hexachlorobenzene	30-70%		X	X
Hexachlorobutadiene	5-20%		X	X
Perchloroethylene	5-20%		X	X
PCBs	211 ppm			X

Other Information:

Chlorine content 75-85%
Sp. Gr. 1.5
Viscosity 0.7-1.0^c cp
Heat of combustion 2500 Btu/lb
Reactivity Stable (saturated with free chlorine)

*Theoretical Calculation

Revision #2
November 21, 1986

EXHIBIT 45

(Exhibit 3)

(Page 5)

(9-10a)2)

WASTE ANALYSIS SHEET

SOLVENTS PLANT

WASTE NAME: Chlorine Taffy WASTE STREAM NO. 8

HAZARDOUS WASTE NO. K073

SOURCE: Chlorinated hydrocarbon waste from the purification step of the
diaphragm cell process using graphite anodes in chlorine production.

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration		Process Knowledge	Analysis
	Typical	Range		
Liquid Chlorine (Cl ₂)	30-70%		X	X
Carbon tetrachloride	30-70%		X	X
Hexachloroethane	0-0.1%			
Hexachlorobutadiene	0-0.1%			

Other Information:

Bromine content	<0.1%
Chlorine content	92-98%
Sp. Gr.	1.5
Viscosity	0.5-1.0 cp
Heat of combustion	50-100 Btu/lb
Reactivity	Reacts with perchloroethylene

Revision #1
November 21, 1986

EXHIBIT 45

(Exhibit 4)

§9.10b)1), 2), and 3)

WASTE CHARACTERIZATION

SOLVENTS PLANT

Waste Name	Parameter	Rationale	Test Method	Sampling Method
Hexes	Hexachlorobutadiene Hexachlorobenzene PCBs	Listed as K016	GC/FID GC/MS	Pump discharge
EDC I Heavies	Ethylene dichloride Tetrachloroethylene PCBs	Listed as K019	GC/FID GC/MS	Pump discharge
Hexes	Hexachlorobutadiene Hexachlorobenzene PCBs	Listed as K030	GC/FID GC/MS	Pump discharge
Chlorine Taffy	Liquid chlorine Carbon tetrachloride	Listed as K073	GC/FID	Sample bomb
Solvent Heavies	Carbon tetrachloride Chloroform 1,1,2-Trichloroethane Tetrachloroethane Ethylene Dichloride	Listed as F024	GC/FID	Pump discharge

VINYL II PLANT

This section describes the chemical and physical nature of the hazardous wastes stored and treated at the Vinyl II Plant and the waste analysis plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling, storage in tanks, and treatment by incinerator.

Description of Operation - The Vinyl II Plant routinely handles two waste streams which are "listed" hazardous wastes, K019 and K020. These are stored in a 45,000 gallon tank, T-400, prior to being incinerated in the Vinyl II thermal oxidizer unit. Vinyl II also handles various lab wastes, F003 and F005, and waste oils which are stored in a 375-gallon tank, T-410, prior to being incinerated. Refer to Exhibit 1 of this section for a schematic diagram showing the various waste streams and their associated storage tanks.

Waste Characteristics - The Vinyl II Plant has a well-trained process chemist/engineering staff responsible for the efficient operation of all processes occurring at that facility. These staff people are thoroughly familiar with all aspects of the operations and completely understand the chemistry of each reaction involved. These reactions are often quite simple, notwithstanding their large scale, and process knowledge is sufficient to identify and characterize the waste streams from the process. In many cases, they may be hazardous only because of a characteristic (e.g. acidic, basic, or ignitable). In other cases, they are hazardous by definition (listed wastes).

However, when additional information is deemed necessary in order to treat, store, or dispose of a waste, then analysis by EPA-approved methods is employed.

At a minimum a heat of combustion analysis shall be performed annually.

The wastes described in this section are "hazardous" because they are listed on the "F" and "K" lists. Each "F" and "K" type waste has been listed by the agency because these streams are known to contain certain hazardous constituents.

See Exhibit 2 of this section for a description of the wastes managed at this facility.

Most of the information that is needed to store and treat these wastes has been obtained by process knowledge. Previously developed and published data on essentially all product and by-product wastes can be referenced through the plant's MSD sheets. Refer to Exhibit 4. Most of the wastes managed at this facility are chlorinated organics. Composition and/or analyses of these waste streams, to the extent they are known, are provided in Exhibit 3 of this section.

Waste Analysis Plan - Because these waste streams are from continuously controlled process, the composition of the waste is fairly constant and can be predicted based on process knowledge. The parameters chosen are selected chlorinated organic compounds known to be present in each waste stream. These generally are the same components that caused the waste stream to be "listed" as a hazardous waste. See Exhibit 4 of this section for an explanation of parameters, rationale, test methods, and sampling methods.

Process and waste stream characterization will be performed annually or more frequently if there is a significant change in the process.

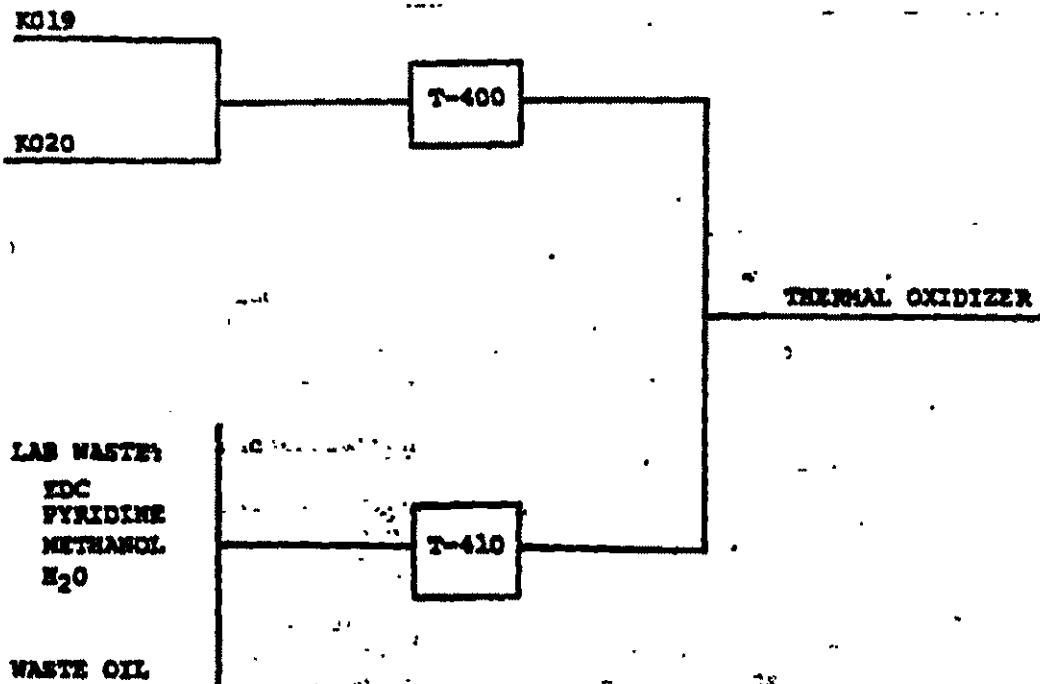
The QA/QC procedures are contained in Section 1 of the Waste Analysis Plan.

EXHIBIT 1
§ 9.10a(1)

VINYL II

TANKS AND FEEDS DIAGRAM

THERMAL OXIDIZER: WASTES AND TANKS



no complete

EXHIBIT 2

§9.10a(1)

BASIS FOR HAZARDOUS DESIGNATION

VINYL II PLANT

<u>Waste Description</u>	<u>Hazard</u>	<u>Basis for Designation</u>
EDC Heavies	Toxic	Listed Waste K019
Vinyl Heavies	Toxic	Listed Waste K020
EDC (Lab Waste)	Toxic	Listed Waste K019
Pyridine (Lab Waste)	Toxic Ignitable	Listed Waste F005
Methanol	Ignitable	Listed Waste F003

EXHIBIT 3

§9.10a)2)

WASTE ANALYSIS

VINYL II PLANT

WASTE NAME: Heavies from production of EDC and VCM

HAZARDOUS WASTE NO. K019 and K020

STORAGE LOCATION: T-400

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration Typical Range	Process Knowledge	Analysis
1,2-Dichloroethane (EDC)	15%		X
1,1,2-Trichloroethane	30%		X
Pentachloroethane	7%		X
Chlorinated propenes	15%		X
Chlorinated butenes	15%		X
Tetrachloroethane	2%		X
Chlorobenzene	1.5%		X
Carbon (NVM) & Unknown	14.5%		X

EXHIBIT 3

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§9.10a)2)

WASTE ANALYSIS

VINYL IF PLANT

WASTE NAME: Lab Wastes and Oils

HAZARDOUS WASTE NO. F003 and F005, K019, K020

STORAGE LOCATION: T-410

IDENTIFICATION BY COMPOSITION:

Constituent	Concentration Typical Range	Process Knowledge	Analysis
EDC	Any combination	X	X
Pyridine	Any combination	X	X
Methanol	Any combination	X	X
Waste Oils	Any combination	X	X

EXHIBIT 4

§9.10b(1), 2), and 3)

WASTE CHARACTERIZATION

VINYL II PLANT

Waste Name	Parameter	Rationale	Test Method	Sampling Method
Heavies from distillation of EDC in EDC production	1,1,2-trichloroethane EDC	Listed as K019	GC/MS	Grab from pump discharge
Heavies from distillation of vinyl chloride in VCM production	1,1,2-trichloroethane EDC	Listed as K020	GC/MS	Grab from pump discharge
Pyridine	Flash point	Waste is ignitable F005	Closed-cup	SW-846
Methanol	Flash point	Waste is ignitable F003	Closed-cup	SW-846

ENVIRONMENTAL OPERATIONS PLANT

This section describes the chemical and physical nature of the hazardous wastes stored and treated at the Environmental Operations (ENV. OP.) incinerator and the waste analysis plan for sampling, testing, and evaluating the wastes to assure that sufficient information is available for their safe handling, storage in tanks, and treatment by incineration.

Description of Operation - The unit being permitted is a rotary kiln incinerator handling a broad range of liquid and solid wastes. Wastes arrive at Environmental Operations packaged in any of the following forms:

1. Bulk refuse.
2. Containerized solid wastes.
3. Containerized liquid wastes.
4. Small quantity wastes in bottles (lab packs).
5. Bulk liquids (via truck or portable tank).

Containerized hazardous wastes (in drums) are stored in a designated area which is further described in §12.6b) of Volume VII. Bulk liquid hazardous wastes are transferred to nearby storage tanks which are further described in Chapter 11 of Volume VII.

Waste Characterization - Each waste is characterized or analyzed, prior to acceptance at Environmental Operations. The information generated is recorded on a "Waste Characterization Sheet" and maintained in a computer file at Environmental Operations. A copy of this form is provided as Exhibit 1.

Each plant, as well as the Environmental Operations Plant, has a well-trained process chemist/engineering staff responsible for the efficient operation of all processes occurring at that facility. These staff people are thoroughly familiar with all aspects of the operations and completely understand the chemistry of each reaction involved.

In many cases, they may be hazardous only because of a characteristic (e.g. acidic, basic, or ignitable). In other cases, they are hazardous by definition (listed wastes).

Analyses specified in Tables 1 and 2 shall be performed annually. Analyses specified in Table 3 shall be performed for each movement of all wastes. A complete list of wastes handled at Environmental Operations and the results of their characterization or analysis is provided as Exhibit 48. Also, previously developed and published data/characteristics on almost all products and by-product wastes can be accessed through Material Safety Data Sheets (MSDS) which are available at each of the plants/sources handling the products, wastes, or mixtures of such.

ITEM 22
ENVIRONMENTAL OPERATIONS
Page 2

The composition of the waste streams will vary significantly depending on plant operations.

This chloride load will be based on the maximum concentrations listed on the Waste Characterization Summary Sheets.

All waste streams received by Environmental Operations from on-site and off-site generators are preceded by a Waste Characterization Summary (see Exhibit 1). This Waste Characterization Summary is accompanied by a representative sample of the waste. The Waste Characterization Summary is reviewed by Environmental Operations technical staff for completeness. Based on identification by process knowledge, constituent analysis, flashpoint, pH, corrosiveness to metal, EP toxicity, and reactivity, it is determined if the waste is hazardous. If it is hazardous, the EPA Hazardous Waste number is assigned.

Next, physical state determines whether the material will be handled as a bulk liquid or as a packaged material. Review of halogen, sulfur, lead, mercury, nitrogen, and BTU contents determine feed rate if the waste is to be handled as a liquid and amount per package if it is a solid.

The LAD Waste Number (Type #) assigned to the waste stream is unique and will appear on all packages, containers, samples, records, shipping papers, etc. concerning the waste stream. When this number is assigned and the Waste Characterization Sheet is signed, the waste may be considered acceptable for transportation to Environmental Operations.

Upon receipt of the waste by Environmental Operations, the manifest is checked for completeness and accuracy. The shipment is then inspected to verify labeling, packaging, and weight. General condition of the shipment is noted and concerns resolved.

Shipments of packaged waste are verified by opening :
and visually comparing the contents with the description on the Waste Characterization Summary. Any discrepancies are noted and resolved.

Additionally, chemical and/or physical analyses per Table 3 will be used supplement visual inspections of hazardous waste to ensure that each movement of a waste stream received at the facility matches the chemical and physical description of the waste designated on the manifest.

In summary, the Waste Characterization Summary serves as a control document for each waste stream. Since all waste handled by Environmental Operations is generated within Dow Chemical U.S.A., we are very familiar with the chemistry of the waste and with proper handling. Should any problems occur with disposal of a particular waste, all waste bearing that LAD waste number is set aside. The Waste Characterization Summary is reviewed, the generator contacted, and a determination of the source of the problem investigated. At this time, specific analyses relative to the problem are performed.

Waste Analysis Plan - As mentioned above, all information that is needed in order to know how to properly store and treat the hazardous waste is provided by the Waste Characterization Sheets listed in Exhibit 4. The parameters which caused the wastes to be listed are shown on the Waste Characterization Sheets. Completed Waste Characterization Sheets are included in Exhibit 4 of Volume X-B. Wastes which have been incinerated in the past have been characterized prior to incineration and it would be impossible to go through these sheets to determine if analysis or estimates were made and how the wastes were sampled. In order to satisfy this requirement in the future, a new Waste Characterization Sheet has been developed (Exhibit 1) which will include the required information. If an analysis is performed, the results of analysis will be included with the Waste Characterization Sheet. On the analysis sheet will also be included the method of sampling and analysis as required by the regulations. No attempt will be made to update the past wastes since much of this waste will never appear again.

After the several methods of visual checks and inspections are completed as mentioned earlier, the following sampling procedures will be used to obtain a representative sample of the waste to be analyzed for heat of combustion.

Hazardous Waste from on and off-site generators:

- Storage tanks and tank trucks - Waste material will be circulated within the tank (or tank truck) as usual and random grab samples taken and analyzed.
- Pack waste - Random grab samples will be extracted (following Dow safety protocol) per Table 3 of the packs received.

It should be noted that some off-site waste streams may not be sampled and analyzed depending upon the risk and potential

injury (for pyrophoric and reactive wastes contained in pressurized vessels only and lab packs. All other off-site wastes will be sampled and analyzed annually per Table 1, 2 and 3 for each movement of waste.)

to be incurred versus incineration of an "unknown" waste stream. In these rare instances, the TSD facility will assume the highest concentration of the reported range in order to ensure compliance with permit requirements.

ITEM 22
ENVIRONMENTAL OPERATIONS
PAGE 4

- Incinerator ash - Ash will be routinely grab sampled and analyzed once per month of ash created. This material will conform to the restrictions as set forth in §14.2j(1) as well as the Land Ban requirements.
- Filter cake - Cake from the filter press will conform to the same procedures as for incinerator ash whenever it is produced.
- Lab waste - Chemical waste from Dow lab facilities will not be sampled and analyzed due to the reagent grade (known) quality of the material.

In all instances, hazardous waste streams will be sampled and analyzed as often as deemed necessary in order to ensure that the proper treatment, storage, and disposal procedures will be implemented.

The rationale for the selection of the parameters in the updated Waste Characterization Sheets are to ensure that the Environmental Operations Incinerator will comply with existing and future permits.

Any new waste stream that has not been characterized will use the updated Waste Characterization Summary Sheets. If that particular waste should require additional analyses to meet permit condition, then those analyses will be performed. Dow has elected to demonstrate all removal efficiencies required by law (both state and federal).

ITEM 22
ENVIRONMENTAL OPERATIONS
PAGE 5

The analyses indicated on the Waste Characterization Sheet are performed following the test methods outlined in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) or an equivalent test method:

<u>Test</u>	<u>Test Method Number</u>		
Ash	ASTM D-482-74		
Heat of Combustion	ASTM D-240-76		
Viscosity	ASTM D-445		
Flash Point	1020 - SW-846		
pH	9040 - SW-846		
Corrosivity to Steel	1110 - SW-846		
Test Method* EP Toxicity	<u>Extraction</u>	<u>Procedure</u>	<u>Toxicity</u>
Metals*	As	206.2	200.7
	Ba	200.7	
	Cd	200.7	
	Cr	200.7	
	Pb	200.7	
	Hg	245.1	
	Se	270.3	
	Ag	272.1	200.7
Pesticides	Endrin	Extraction - 3510	
	Lindane	Analysis - 8080	
	Methoxychlor	(SW-846)	
	Toxophene		
	2,4,5-T	Analysis - 8150	
	2,4,5-T	(SW-846)	
Halogenated Organics	5030 (GC) - SW-846		
	8240 (GC/MS) - SW-846		
	8270 (GC/MS) - SW-846		
Non-halogenated Organics	8270 (GC/MS) - SW-846		
PCB	8080 - SW-846		
Total Chlorine	Method D2382.76		
	407A of ASTM D512		

*"Methods of Chemical Analysis of Water and Wastes" 15th Edition

Halogenated Organics

5030 (GC) - SW-846

8240 (GC/MS) - SW-846

8270 (GC/MS) - SW-846

Non-halogenated Organics

8270 (GC/MS) - SW-846

PCB

8080 - SW-846

Total Chlorine

Method D2380.76

407A of ASTM D512

*"Methods of Chemical Analysis of Water and Wastes" 15th
Edition

ALL QUESTIONS MUST BE ANSWERED BEFORE WASTE CAN BE ACCEPTED FOR DISPOSAL.
(SEE INSTRUCTIONS ATTACHED)

PA WASTE # _____

TYPE NUMBER _____

ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY

1. CONTACT _____
2. PHONE NO. _____
3. PLANT _____
4. ACCOUNT NO. _____
5. WASTE NAME _____
6. IDENTIFICATION BY PROCESS KNOWLEDGE _____
7. IDENTIFICATION BY COMPOSITION:

CONSTITUENT	CONCENTRATION TYPICAL RANGE	PROCESS KNOWLEDGE	ANALYSIS*
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
FLASHPOINT: _____ DEG F.	100%	_____	_____
PH _____		_____	_____
CORROSIVE TO STEEL? _____		_____	_____
CONSTITUENTS OF CONCERN:			
A. HALOGENATED ORGANICS: <1% _____, 1-10% _____, >10% _____			
B. NON-HALOGENATED ORGANICS: <1% _____, 1-10% _____, >10% _____			
C. PCB'S: <50 PPM _____, >50 PPM _____			
D. FREE CHLORINE: PRESENT _____, ABSENT _____			
E. SAND, DIRT, DEBRIS: <1% _____, 1-10% _____, >10% _____			
F. WATER: <1% _____, 1-10% _____, >10% _____			
G. OTHER (SPECIFY) _____: <1% _____, 1-10% _____			
H. SULFUR: <0.1% _____, 0.1-1% _____, >1% _____			
I. LEAD: <100 PPM _____, >100 PPM _____			
J. MERCURY: <100 PPM _____, >100 PPM _____			
K. NITROGEN: <1% _____, 1-10% _____, >10% _____			

ANALYTICAL DATA GENERATED FOR ITEMS 7-12 AND 14 AND 17 MUST BE COPIED TO ENVIRONMENTAL OPERATIONS FOR FILING.

PROCESS
KNOWLEDGE ANALYSIS*

12. EP TOXICITY? YES___/NO___
 13. TOXICITY: INGESTION___, INHALATION___,
 DERMAL___, EYES___
 TOXICITY REFERENCE:_____
 REACTIVITY:_____
 14. PHYSICAL STATE (AT 70 DEG. F)
 LIQUID___ SOLID___ SLUDGE___ SLURRY___
 SINGLE PHASE___ MULTI-PHASE___ OIL/WATER___
 15. PUMPABLE AT 70 DEG. F._____
 PUMPABLE AT 100 DEG. F._____
 16. HEAT OF COMBUSTION (BTU/LB): <5000___
 5000-15000___ >15000___
 17. EXPLOSION/FIRE HAZARD:_____

18. PERSONNEL HANDLING EXPOSURE/PRECAUTIONS:_____

19. HOW CONTAINED NOW._____
 20. REQUIRED PACKAGING_____
 21. VOLUME OF WASTE MATERIAL (IN POUNDS):
 INVENTORY_____ PER YEAR_____
 22. MATERIAL COMPATIBILITY_____

SOURCE PLANT SUPERINTENDENT (SEE NOTE BELOW) DATE

ENVIRONMENTAL OPERATIONS SUPERINTENDENT DATE

EGGIE STEVENS

EV. 8/15/84

DISPOSAL METHOD:_____

NOTE: UPDATE THIS SHEET IF PROCESS OR WASTE COMPOSITION CHANGES.
 FORWARD UPDATE TO ENVIRONMENTAL OPERATIONS

ANNUAL REVIEW DATE/INITIAL _____/_____
 _____/_____
 _____/_____

PROCEDURE FOR COMPLETING WASTE CHARACTERIZATION SUMMARY:

**EPA WASTE # AND TYPE NUMBER: WILL BE SUPPLIED BY ENVIRONMENTAL
AGENCIES PERSONNEL**

1. **CONTACT: PERSON IN PLANT KNOWLEDGEABLE OF WASTE AND SUPPLYING THIS INFORMATION.**
2. **PHONE NO: PHONE NUMBER OF CONTACT PERSON.**
3. **PLANT: PLANT GENERATING WASTE.**
4. **ACCOUNT NO: PLANT ACCOUNT TO BE CHARGED FOR TRANSPORTATION AND/OR DISPOSAL OF WASTE.**
5. **WASTE NAME: COMMON NAME BY WHICH PEOPLE IN YOUR PLANT CALL WASTE. PLEASE BE SPECIFIC. (EXAMPLE: 'D-220 BTHS' OR 'TRENCH SOLIDS/PER-TET')**
6. **IDENTIFICATION BY PROCESS KNOWLEDGE: DESCRIBE THE PROCESS OR EQUIPMENT PRODUCING THE WASTE. WHAT PRODUCED THE WASTE? HOW WAS IT TREATED OR REMOVED? WHAT MATERIAL CAME IN CONTACT WITH PROCESS OR WASTE? (EXAMPLE: 'POLYMER FORMED IN C-301 C-301 IS A CELL EFFLUENT SCRUBBER WHICH REMOVES H₂S AND CO₂ FROM CRACKED GAS; POLYMER HAS BEEN STEAMED AND WATER BLASTED')**
7. **IDENTIFICATION BY COMPOSITION: THE DEQ REGULATIONS STATE 'A DETAILED CHEMICAL AND PHYSICAL ANALYSIS OF A REPRESENTATIVE SAMPLE MUST BE OBTAINED'. THIS INFORMATION MAY BE GIVEN FROM YOUR DETAILED PROCESS KNOWLEDGE OR FROM A-LAB ANALYSIS. PLEASE NOTE IN THE COLUMN ON THE RIGHT SIDE HOW THE DETERMINATION WAS MADE (I.E., PROCESS KNOWLEDGE OR ANALYSIS). IN EITHER CASE THE 'TYPICAL ANALYSIS' SHOULD ACCOUNT FOR 100% OF THE SAMPLE. THE GOAL OF THIS IDENTIFICATION IS TO IDENTIFY AND QUANTIFY THE SAMPLE AS MUCH AS POSSIBLE WITHOUT MAKING A 'RESEARCH PROBLEM'. ITEM 10 'CONSTITUENTS OF CONCERN' SHOULD SERVE THE WASTE GENERATOR AND ANALYTICAL CHEMIST AS GUIDELINE AS TO WHAT TO IDENTIFY AND RESPECTIVE SENSITIVITY REQUIRED. ALSO PROVIDE THE 'RANGE OF CONCENTRATION' THAT MIGHT BE EXPECTED WITH THE WASTE. THIS MAY VARY SIGNIFICANTLY FROM THE 'TYPICAL ANALYSIS' OR-LAB ANALYSIS.**
8. **FLASHPOINT: PLEASE PROVIDE EVEN IF THE WASTE IS A SOLID.**
9. **PH: PLEASE PROVIDE. NOTE: IF THE WASTE IS ORGANIC OR A SOLID, THE PH IS TO BE DETERMINED BY MIXING THE SAMPLE 1:1 V/V WITH WATER AND READING THE PH OF THE AQUEOUS PHASE.**
10. **IS THE MATERIAL A LIQUID THAT CORRODES STEEL (SAE 1020) AT A RATE GREATER THAN 0.25 INCH PER YEAR AT 55 DEG. C.**
11. **CONSTITUENTS OF CONCERN: PLEASE CHECK APPROPRIATE BLANK FROM PROCESS KNOWLEDGE OR PROVIDE CONCENTRATION FROM LAB ANALYSIS.**

12. DOES THE WASTE CONTAIN ANY OF THE FOLLOWING CONSTITUENTS AT OR ABOVE THE LISTED CONCENTRATIONS? IF IT DOES, FURTHER TESTING PER 24.2 D OF LHW R MAY BE REQUIRED TO DETERMINE EP TOXICITY:

CONSTITUENT	CONCENTRATION MG/L
ARSENIC	5.0
BARIUM	100.0
CADMIUM	1.0
CHROMIUM	5.0
LEAD	5.0
MERCURY	0.2
SELENIUM	1.0
SILVER	5.0
ENDRIN	0.02
LINDANE	0.4
METHOXYCHLOR	10.0
TOXAPHENE	0.5
2,4D	10.0
2,4,5 TP SILVER	1.0

13. TOXICITY: (a) PROVIDE HIGHEST RATING ACUTE OR CHRONIC FROM SAX. SPECIFY COMPONENT IN ANALYSIS ON WHICH YOU BASE SAX OR TOXICITY RATING. (b) IF YOU ARE UNFAMILIAR WITH SAX, LEAVE BLANK.

14. REACTIVITY: IF THE WASTE MEETS ANY OF THE FOLLOWING CRITERIA, PLEASE STATE WHICH. IF NOT, STATE "NONE". A WASTE IS REACTIVE OF MODERATE HAZARD IF A REPRESENTATIVE SAMPLE OF THE WASTE:
- A. IS NORMALLY UNSTABLE AND READILY UNDERGOES VIOLENT CHEMICAL CHANGE WITHOUT DETONATING; REACTS VIOLENTLY WITH WATER, FORMS POTENTIALLY EXPLOSIVE MIXTURES WITH WATER, OR GENERATES TOXIC GASES, VAPORS, OR FUMES WHEN MIXED WITH WATER, OR IS A CYANIDE OR SULFIDE BEARING WASTE WHICH CAN GENERATE DANGEROUS QUANTITIES OF TOXIC GASES, VAPORS, OR FUMES WHEN EXPOSED TO MILD ACIDIC OR BASIC CONDITIONS.
 - B. IS CAPABLE OF DETONATION OR EXPLOSIVE REACTION BUT REQUIRES STRONG INITIATING SOURCE OR WHICH MUST BE HEATED UNDER CONFINEMENT BEFORE INITIATION CAN TAKE PLACE, OR WHICH REACTS WITH WATER.
 - C. IS READILY CAPABLE OF DETONATION OR OF EXPLOSIVE DECOMPOSITION OR REACTION AT NORMAL TEMPERATURES AND PRESSURES.
 - D. IS A FORBIDDEN EXPLOSIVE AS DEFINED IN 49 CFR 173.51, A CLASS A EXPLOSIVE AS DEFINED IN 49 CFR 173.53, OR A CLASS B EXPLOSIVE AS DEFINED IN 49 CFR 173.58.
15. PHYSICAL STATE (AT 70 DEG. F.): PLEASE CHECK MORE THAN ONE BOX IF APPLICABLE.
16. PUMPABLE AT 70 DEG. F? 100 DEG. F?: IS MATERIAL PUMPABLE WITH NORMAL EQUIPMENT AT THESE TEMPERATURES?
17. HEAT OF COMBUSTION (BTU/LB): PLEASE PROVIDE FROM PROCESS KNOWLEDGE OR FROM LAB DETERMINATION.
18. EXPLOSION/FIRE HAZARD: BASED ON "FLASH POINT" OR "REACTIVITY": PLEASE STATE EXPLOSION OR FIRE HAZARD CONCERNS AND RELATED INSTRUCTION. HOW TO, HOW NOT TO, EXTINGUISH FIRE, ETC. ALSO FOR THOSE FINELY DIVIDED MATERIALS CONSIDER DUST EXPLOSION OR FIRE. IS THE MATERIAL CAPABLE OF SPONTANEOUS COMBUSTION?

19. PERSONNEL HANDLING EXPOSURE/PRECAUTIONS: HOW DO YOU HANDLE THIS MATERIAL IN YOUR PLANT? SAFETY EQUIPMENT? SAFETY DATA SHEETS? ANY OTHER INFORMATION YOU WOULD TELL SOMEONE WHO HAS NEVER HANDLED THIS MATERIAL BEFORE. WHAT SAFETY EQUIPMENT SHOULD BE USED IN CASE OF A SPILL?

20. HOW CONTAINED NOW: IS IT IN A TANK, DRUMS, ON THE GROUND, ETC.

21. REQUIRED PACKAGING: LEAVE THIS BLANK. ENVIRONMENTAL OPERATIONS PERSONNEL AND THE PLANT GENERATING THE WASTE WILL ARRIVE AT THE APPROPRIATE PACKAGING.

22. VOLUME OF WASTE MATERIAL (IN POUNDS):

A. INVENTORY: HOW MUCH DO YOU HAVE NOW.

B. PER YEAR: ESTIMATE HOW MUCH YOU WILL GENERATE IN A YEAR.

23. MATERIAL COMPATIBILITY: INDICATE SPECIFIC MATERIALS THAT NEED TO BE CONSIDERED WHEN PACKAGING OR HANDLING THIS WASTE. SPECIAL ATTENTION SHOULD BE GIVEN TO THOSE MATERIALS TO BE TRANSFERRED IN LOADING HOSES.

NOTE: PLEASE BE SURE SUMMARY IS SIGNED AND DATED BY PLANT
- - - SUPERINTENDENT BEFORE SENDING IT IN. WHEN A TYPE NUMBER IS
ASSIGNED TO THIS WASTE, A COPY WILL BE RETURNED TO YOU FOR
YOUR USE.

ENVIRONMENTAL OPERATIONS PLANT
DIRECT BURN INSTRUCTIONS
(ATTACH TO WEIGHT TICKET)

Exhibit 2
Revision #1
October 14, 1985

DATE: _____ FINISH DATE: _____

WASTE TYPE NO.: _____ *DBS NO.: _____

WASTE NAME: _____ *BURNER: _____

AMOUNT (GALLONS): _____ *FLOW RATE (GPM): _____

DBT/TRAILER NO: _____ *UNLOAD BY N2: _____

GASKET MATERIAL: _____ *N2 PRESSURE: _____

FITTING MATERIAL: _____ *UNLOAD BY PUMP: _____

SAFETY EQUIPMENT:

EXPOSURE PRECAUTIONS: (GROSS EXPOSURE TO ANY CHEMICAL REQUIRES VISIT TO MEDICAL CENTER)

WARNING INSTRUCTIONS:

NOTE: OPERATIONS MUST PLACE A COMPLETED DECONTAMINATION TAG IN TANK HOLDER WHEN CLEANING IS COMPLETED.

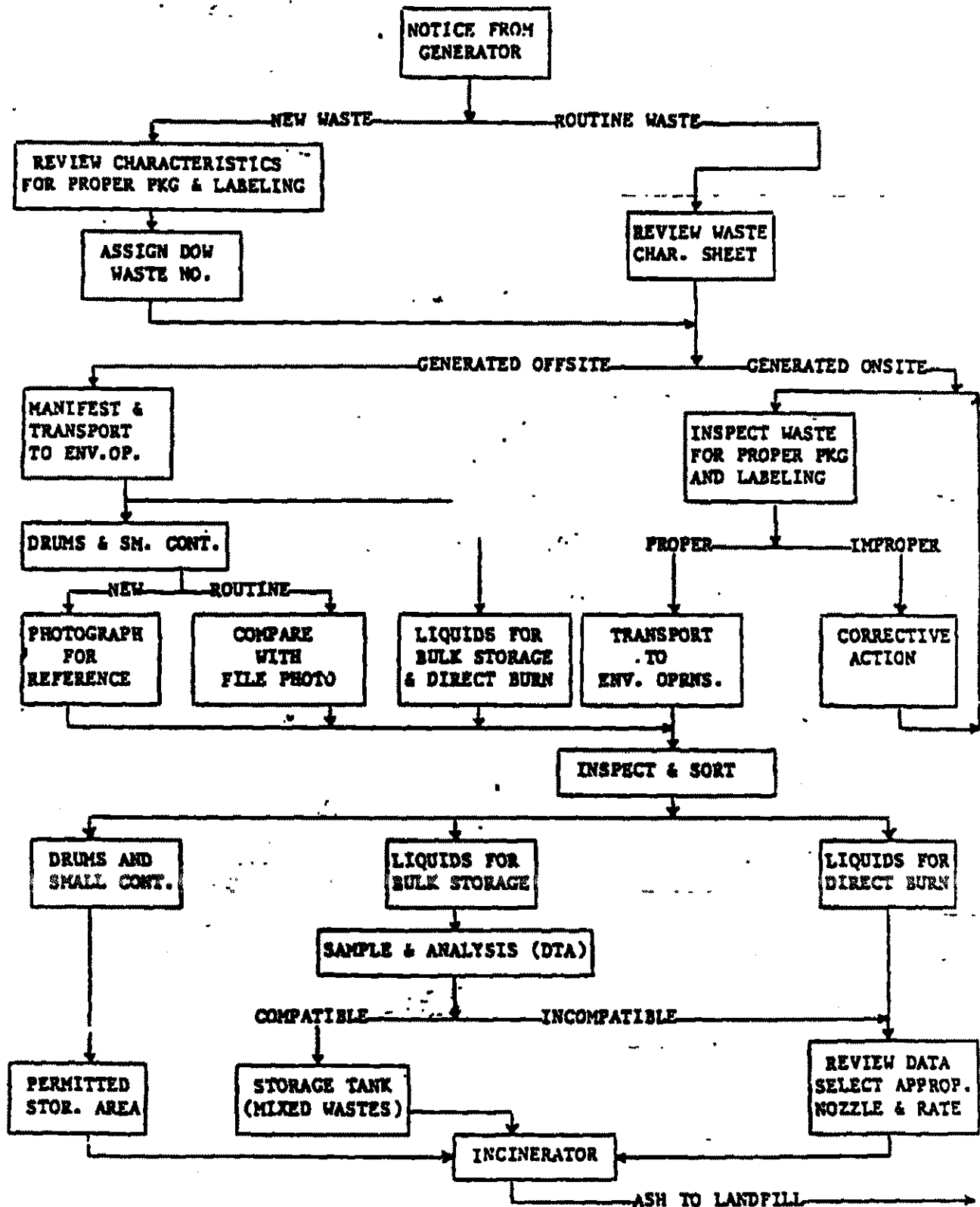
IN CASE OF SPILL OR PLUGGED LINE:

SPECIAL INSTRUCTIONS (INCINERATOR TEMP, SCRUBBER pH, ETC.):

FILLED OUT BY PROCESS OR PRODUCTION SUPERVISOR WHEN MATERIAL SCHEDULED TO BE BURNED

ARRYL SANDERSON
1/18/84 (REV 7/10/85)
BINSTR.FRM1

ENVIRONMENTAL OPERATIONS WASTE HANDLING PROCEDURE



NORTHWEST LANDFILL (NWL.F)

This section describes the chemical and physical nature of the hazardous wastes stored at the NWLF and the waste analysis plan for sampling, testing, and evaluating the wastes to ensure that sufficient information is available for their safe handling.

Description of Operation - The primary purpose for NWLF is the disposal of incinerator ash from the Environmental Operations rotary kiln incinerator. Occasionally some asbestos waste is also disposed of at this site although it is not a listed "hazardous waste." Some soil or other debris contaminated with a listed hazardous waste may on occasion be landfilled, but this is very infrequent.

Waste Characteristics - Incinerator ash is deemed "hazardous" only by definition. The definition of hazardous waste includes any solid waste or residue generated from the treatment, storage, or disposal of a hazardous waste. Since the Environmental Operations incinerator burns hazardous waste, all ash removed from the incinerator is considered hazardous. Because of the destruction efficiency of the incinerator, no organic chemical analysis of the ash is necessary in order to know how to dispose of the waste. Extraction and analysis has shown that it is not EP toxic. Free liquids are never landfilled. For non-routine wastes which may require landfilling, NWLF personnel will obtain any needed analyses for proper handling of the waste prior to disposal at the landfill. These analyses will include pH, reactivity review, or EP toxicity.

See Exhibit 1 for waste characterization. Additionally, previously developed and published data/characteristics on almost all products and by-product wastes can be accessed through Material Safety Data Sheets (MSDS) which are available at each of the plants/sources handling the products, wastes or mixtures of such. A waste characterization form is also required to be filled out by the plant requesting treatment before any treatment can be performed. Refer to Exhibit 4B, Volume X-B.

An annual recharacterization of the incinerator ash will be made. Any analysis performed will be repeated whenever there are changes to the incinerator feeds such that the ash content would be changed. Analyses of nonroutine waste will be performed and recorded.

Minor Correction 20
NWLFP
Page 2

Also, incinerator ash, the primary waste to be landfilled at this facility, has always met the criteria limited by §14.2j(1) as indicated by previous analysis and testing, and so, is qualified to be landfilled. If wastes, other than ash, are to be placed in the landfill, every effort will be undertaken to ensure the requirements of 14.2j(1). Ash will be sampled on a monthly basis.

The QA/QC procedures are submitted as an exhibit to the overall Waste Analysis Plan located in Section 2 of the Waste Analysis Plan.

NWLF - EXHIBIT 1

\$9.10b)

WASTE CHARACTERIZATION
NORTHWEST LANDFILL (NWLF)

Waste Name	Parameter	Rationale	Test Method	Sampling Method
Incinerator Ash	pH	To monitor acidity to ensure compatibility with other materials	Electrometric	Composite Grab
	EP toxicity	To monitor ash leachate characteristics	EP toxicity procedure	Composite Grab
Wastes or Solids Containing listed hazardous wastes	pH	To monitor acidity to ensure compatibility with other materials	Electrometric	Composite Grab
	EP toxicity	To monitor waste leachate characteristics	EP toxicity procedure	Composite Grab
	Reactivity	To know if there is concern for explosion or violent reaction in mixed wastes	SW-846	Composite Grab

BLOCK 80 HAZARDOUS WASTE LANDFILL

This section describes the chemical and physical nature of the hazardous wastes stored at the Block 80 HWLF and the waste analysis plan for sampling, testing, and evaluating the wastes to ensure that sufficient information is available for their safe handling.

Description of Operation - The primary purpose for Block 80 HWLF will be the disposal of incinerator ash from the Environmental Operations rotary kiln incinerator. This landfill will eventually replace Northwest Landfill when it is full. Occasionally, some asbestos waste may also be disposed of at this site, although it is not a listed "hazardous waste". Some soil or other debris contaminated with a listed hazardous waste may on occasion be landfilled but this will be very infrequent.

Waste Characteristics - Incinerator ash is deemed "hazardous" only by definition. The definition of hazardous waste includes any solid waste or residue generated from the treatment, storage, or disposal of a hazardous waste. Since the Environmental Operations incinerator burns hazardous waste, all ash removed from the incinerator is considered hazardous.

Extraction and analysis has shown that it is not EF toxic. Free liquids are never landfilled. For non-routine wastes, which may require landfilling, Block 80 HWLF personnel will obtain any needed analyses for proper handling of the waste prior to disposal at the landfill. These analyses will include pH, reactivity review, or EF toxicity and analysis required in the permit.

See Exhibit 1 for waste characterization. Additionally, previously developed and published data/characteristics on almost all products and by-product wastes can be accessed through Material Safety Data Sheets (MSDS) which are available at each of the plants/sources handling the products, wastes or mixtures of such. A waste characterization form is also required to be filled out by the plant requesting treatment before any treatment can be performed. Refer to Exhibit 48, Volume X-B.

An annual characterization of the incinerator ash will be made. The analysis performed will be repeated whenever there are significant changes in feeds to the incinerator such that the ash content would be changed significantly. Analyses of non-routine wastes will be repeated on an as-needed basis.

MINOR CORRECTION 21
BLOCK 80 HWLF
PAGE 2

Waste Analysis Plan - The only parameters likely to be chosen for wastes going to the landfill are pH, reactivity, and EP toxicity. See Exhibit 2 for explanation of parameters, rationale, test methods, and sampling methods.

Also, incinerator, ash, the primary waste to be landfilled at this facility, has always met the criteria limited by §14.2j(1) as indicated by previous analysis and testing, and so, is qualified to be landfilled. If wastes, other than ash, are to be placed in the landfill, every effort will be undertaken to ensure the requirements of 14.2j(1). Ash will be sampled on a monthly basis.

The QA/QC procedures are submitted as an exhibit to the overall Waste Analysis Plan located in Appendix Volume X-B.

BLOCK 80 HWLF - EXHIBIT 1

\$9.10b)

WASTE CHARACTERIZATION

BLOCK 80 HAZARDOUS WASTE LANDFILL (HWLF)

Waste Name	Parameter	Rationale	Test Method	Sampling Method
Incinerator Ash	pH	To monitor acidity to ensure compatibility with other materials	Electrometric	Composite Grab
	EP toxicity	To monitor leachate characteristics	EP toxicity procedure	Composite Grab
Wastes or Solids Containing listed hazardous wastes	pH	To monitor acidity to ensure compatibility with other materials	Electrometric	Composite Grab
	EP toxicity	To monitor leachate characteristics	EP toxicity procedure	Composite Grab
	Reactivity	To know if there is concern for explosion or violent reaction in mixed wastes	SW-846	Composite Grab

EXHIBIT 1-Z

REVISED 1/88

EPA L.B. NUMBER

L A D 0 0 8 1 8 7 0 8 0

A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
K 0 3 4	900	P	T 0 3 D 8 0	
D 0 0 2	400	P	T 0 3 D 8 0	
D 0 0 1	100	P	T 0 3 D 8 0	
F001	512	T	S02 T03 D80	
F002	349	T	S01 S02 T03	
F003	< 1	T	S01 S02 T03 D80	
F005	1.5	T	S02 T03	
F008	< 1	T	S02 T03	
F024	3,271	T	S02 T03	
F027	< 1	T	T03	
K016	1,033	T	S01 S02 T03	
K017	< 1	T	S01 S02 T03	
K019	3,832	T	S01 S02 T03	
K020	4,030	T	S02 T03	

REVISED 1/88

EPA I.D. NUMBER

L A D 0 0 8 1 8 7 0 8 0

A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
K022	< 1	T	S01 T03 D80	
K028	5.4	T	S01 T03 D80	
K030	1,418	T	S02 T03	
K073	615	T	S01 S02 T03	
D001	1,778	T	S01 S02 T03 D80	
D002	12,817	T	S01 S02 S04	
D003	90	T	S01 T03	
D004	< 1	T	S01 T03 D80	
D005	< 1	T	S01 T03 D80	
D006	< 1	T	S01 T03 D80	
D007	< 1	T	S01 T03	
D008	< 1	T	D80	
D009	1	T	D80	
D011	< 1	T	D80	
P002	< 1	T	S01 T03	
P012	< 1	T	S01 T03	

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EPA ID NUMBER

LA D 0 0 8 1 8 7 0 8 0

A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered is OK)
P016	< 1	T	S01 T03	
P022	< 1	T	S01 T03	
P028	< 1	T	S01 T03	
P030	< 1	T	S01 T03	
P048	< 1	T	S01 T03	
P058	< 1	T	S01 T03	
P063	< 1	T	S01 T03	
P078	< 1	T	S01 T03	
P087	< 1	T	S01 T03	
P095	< 1	T	S01 T03	
P098	< 1	T	S01 T03	
P104	< 1	T	S01 T03	
P106	< 1	T	S01 T03	
P120	< 1	T	S01 T03	
U002	< 1	T	S01 T03	

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EPA I.D. NUMBER

L A D 0 0 8 1 8 7 0 8 0

A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
U003	< 1	T	S01 T03	
U004	< 1	T	S01 T03	
U006	< 1	T	S01 T03	
U007	< 1	T	S01 T03	
U008	< 1	T	S01 T03	
U009	< 1	T	S01 T03	
U012	< 1	T	S01 T03	
U019	< 1	T	S01 T03	
U020	< 1	T	S01 T03	
U028	< 1	T	S01 T03	
U029	< 1	T	S01 T03	
U031	< 1	T	S01 T03	
U034	< 1	T	S01 T03	
U037	< 1	T	S01 T03	
U044	2.3	T	S01 T03	

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EPA L.B. NUMBER

L A D 0 0 8 1 8 7 0 8 0

A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODES (enter)	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
U052	< 1	T	S01 T03	
U055	< 1	T	S01 T03	
U056	< 1	T	S01 T03	
U057	< 1	T	S01 T03	
U066	< 1	T	S01 T03	
U067	1,188	T	S01 T03	
U069	< 1	T	S01 T03	
U070	< 1	T	S01 T03	
U077	281	T	S01 T03	
U079	< 1	T	S01 T03	
U080	< 1	T	S01 T03	
U083	< 1	T	S01 S03	
U084	8.9	T	S01 T03	
U088	< 1	T	S01 T03	
U101	< 1	T	S01 T03	

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EPA L&D, POLYMERIZATION

L A D 0 0 8 1 8 7 0 8 0

[illegible]

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EPA ID NUMBER

LA D 0 0 8 1 8 7 0 8 0

EPA HAZARDOUS WASTE NO. OF 100	B. ESTIMATE ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE OF 100	D. PROCESSES	
			1. PROCESS CODE OF 100	2. PROCESS DESCRIPTION IF A CODE IS NOT ENTERED IN D.1.
U112	< 1	T	S01 T03	
U115	< 1	T	S01 T03	
U117	< 1	T	S01 T03	
U118	< 1	T	S01 T03	
U119	< 1	T	S01 T03	
U121	< 1	T	S01 T03	
U122	< 1	T	S01 T03	
U123	< 1	T	S01 T03	
U125	< 1	T	S01 T03	
U127	< 1	T	S01 T03	
U128	< 1	T	S01 T03	
U132	< 1	T	S01 T03	
U133	< 1	T	S01 T03	
U140	< 1	T	S01 T03	
U144	< 1	T	S01 T03	

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L AID 010 81 870 810

A. EPA HAZARDOUS WASTE NO. enter code	B. ESTIMATE ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE enter code	D. PROCESSES	
			1. PROCESS CODE enter	2. PROCESS DESCRIPTION if a code is not entered in D.1
U151	< 1	T	S01 T03	
U154	< 1	T	S01 T03	
U159	< 1	T	S01 T03	
U160	< 1	T	S01 T03	
U161	< 1	T	S01 T03	
U162	< 1	T	S01 T03	
U163	< 1	T	S01 T03	
U165	< 1	T	S01 T03	
U166	< 1	T	S01 T03	
U169	< 1	T	S01 T03	
U170	< 1	T	S01 T03	
U177	< 1	T	S01 T03	
U180	< 1	T	S01 T03	
U183	< 1	T	S01 T03	
U188	< 1	T	S01 T03	

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EPA ID NUMBER

LA D 01 01 81 81 71 01 81 01

A. EPA HAZARDOUS WASTE NO. (enter code)	B. ESTIMATE ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES	
			1. PROCESS CODE (enter)	2. PROCESS DESCRIPTION if a code is not entered in D.1.
U190	< 1	T	S01 T03	
U191	55.8	T	S01 T03	
U196	< 1	T	S01 T03	
U197	< 1	T	S01 T03	
U200	< 1	T	S01 T03	
U201	< 1	T	S01 T03	
U202	< 1	T	S01 T03	
U207	< 1	T	S01 T03	
U209	< 1	T	S01 T03	
U210	< 1	T	S01 T03	
U211	17.5	T	S01 T03	
U213	< 1	T	S01 T03	
U217	< 1	T	S01 T03	
U220	22	T	S01 T03	
U222	< 1	T	S01 T03	

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EPA ID NUMBER

LA0008187080

A. EPA HAZARDOUS WASTE NO. (EPCRA CODE)	B. ESTIMATE ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (EPCRA CODE)	D. PROCESSES	
			1. PROCESS CODE (EPCRA)	2. PROCESS DESCRIPTION (If a code is not entered in D.1.)
U223	< 1	T	S01 T03	
U226	1.8	T	S01 T03	
U227	2.8	T	S01 T03	
U228	< 1	T	S01 T03	
U233	< .1	T	S01 T03	
U239	< 1	T	S01 T03	
U242	< 1	T	S01 T03	
U246	< 1	T	S01 T03	

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WASTE CHARACTERIZATION PROGRAM

DOW CHEMICAL U.S.A., LOUISIANA DIVISION

<u>Waste Category</u>	<u>Characterization Method</u>
A. Off-Site Generated Waste Streams (Excluding Lab Packs)	Annual analysis and certification by generator that waste stream has not changed. (See attached pages)
B. On-Site Generated Waste Streams	Characterization by process knowledge and routine pack inspections. Waste streams reviewed on an annual basis combined with an annual certification by Plant Superintendent that waste stream has not changed.
C. Laboratory Waste Streams	Characterization by published documented data and process knowledge. Waste streams reviewed on an annual basis.
D. Transient Waste Streams	Characterization by process knowledge and/or documented data combined with routine pack inspection. If process knowledge or document data is not available, analysis will be done.
E. Spill Cleanup	Characterization by process knowledge unless waste stream has changed or its composition unknown.

Charles Goldsmith
Environmental Services

sb

7/88

METHODS AND PROCEDURES OF ANALYSIS FOR SOLID/HAZARDOUS WASTE

Information Source	Analysis	Frequency of Analysis	Lab Sample	Process Knowledge	Visual	Grab Sample
*WCSDS	Waste Constituents %	100%	X	X		X
	Waste Constituents Range	100%	X	X		X
	Flash Point	100%	X	X		X
	pH	100%	X	X		X
	Corrosivity Test	100%	X	X		X
	Chlorine %	100%	X	X		X
	Bromine %	100%	X	X		X
	Fluorine %	100%	X	X		X
	Non-Halogenated Organics %	100%	X	X		X
	PCB %	100%	X	X		X
	Water %	100%	X	X		X
	Sulfur %	100%	X	X		X
	Lead %	100%	X	X		X
	Mercury %	100%	X	X		X
	Nitrogen %	100%	X	X		X
	Sodium %	100%	X	X		X
	BTU's	100%	X	X		X
	Density	100%	X	X		X
	Physical State	100%	X	X		X
	E.P. Toxic	100%	X	X		X
	<u>Other Pertinent Data</u>					
	Free Chlorine Present	100%	X	X		X
	Chemical Reactivity	100%	X	X		X
	Fire and Explosion Potential	100%	X	X		X
	Handling Exposure Precautions	100%	X	X		X
	Compatibility with Materials of Construction	100%	X	X		X

*Waste Characterization Summary Data Sheet

DS:ab
12/87
HW

METHODS AND PROCEDURES OF ANALYSIS FOR SOLID/HAZARDOUS WASTE

(Continued)

Information Source	Analysis	Frequency of Analysis	Lab Sample	Process Knowledge	Visual	Grab Sample
MSDS (Typical)	pH	100%	X			X
	Flash Point	Varies	X			X
	Vapor Pressure	Varies	X			X
	Viscosity	Varies	X			X
	Evaporation Rate	Varies	X			X
	Physical State	100%		X		
	Odor	Varies	X			X
	Sp. Grav.	100%	X			X
	Vapor Density	Varies	X			X
	% Soluble (in H ₂ O)	Varies	X			X
	Appearance	100%			X	
	Freeze Point	Varies	X			X
	Vapor Point	Varies	X			X
<u>Other Pertinent Data</u>						
	Decomposition Products	Varies	X			X
	Hazardous Ingredients	100%		X		
	Health Hazard Effects	100%		X		
	Symptoms of Exposure	100%		X		
	Spill Disposal	Varies		X		
	Fire Instructions	100%		X		
	Protective Equipment	100%		X		
	Storage and Handling	100%		X		
	Federal Regulations	Varies		X		
HWLF	Paint Filter Test	Occasional			X	X
	Organic Content in Soils	If Needed	X			X
(Monitor Wells)	pH	6 Months	X			X
	TOD	6 Months	X			X
	Organics	6 Months	X			X
(Runoff Water)	pH	1/Month when flowing	X			X
	TOD	1/Month when flowing	X			X
	Organics	1/Month when flowing	X			X

3

METHODS AND PROCEDURES OF ANALYSIS FOR SOLID/HAZARDOUS WASTE
(EACH MOVEMENT OF WASTE)
(Continued)

Information Source	Analysis	Frequency of Analysis	Lab Sample	On-Line Analyzer	Visual	Grab Sample if Required
I-200 (Offsite Hazardous)	Halogens	100%	X			X
	STU's	100%	X			X
	Lead	100%	X			X
	Sulfur	100%	X			X
	Mercury	100%	X			X
If waste stream is:						
- Liquids to tanks	IR	100%	X			X
	DTA	100%	X			X
- Onsite Direct Burns	IR	None	X			X
- Paks	Inspections	SEE TABLE BELOW			X	X
- Stack	Halogen	Continuous		X		X
	CO	Continuous		X		X
	O ₂	Continuous		X		X
	Opacity (required during test burns)	Permanant to requirements of air permit				
- Ash	"P" list	Monthly	X			X
	California list	Monthly	X			X
	Inspections	Daily			X	X
- Scrubber Water & Solids	"P" list	Monthly	X			X
	California list	Monthly	X			X
Offsite Direct Burns	IR	100%	X			X

DS:sb
12/87
HW

Packages in Shipment	Packages Released
1 to 8	2
9 to 27	3
28 to 44	4
45 to 125	5
126 to 216	6
217 to 343	7
344 to 513	8
514 to 729	9
730 to 1070	10
1071 to 1331	11

WASTE DISPOSAL STANDARDS FOR LOUISIANA DIVISION GENERATORS

SECTION 3 - WASTE CHARACTERIZATION SUMMARY DATA SHEETS (WCSD)

THE WASTE CHARACTERIZATION SUMMARY DATA SHEET IS AN EXTREMELY IMPORTANT DOCUMENT. IT IS AN ANALYTICAL RECORD OR DOCUMENTATION OF YOUR WASTE STREAMS. IF YOU HAVE QUESTIONS OR NEED HELP COMPLETING THE WCSD, PLEASE CALL US AT 1860 OR SEE US AT BUILDING 8010.

A WCSD MUST BE FILLED OUT FOR EVERY WASTE STREAM YOU GENERATE AND SENT TO US FOR DISPOSAL.

YOU AS THE GENERATOR OF THE WASTE STREAM SHOULD HAVE ON FILE A COPY OF THE WCSD SHEETS FOR EACH STREAM SENT FOR DISPOSAL.

YOU AS THE GENERATOR OF A WASTE STREAM MUST BE AWARE OF PROCESS CHANGES OR CHANGES IN OPERATING PROCEDURES THAT COULD OR DO CHANGE THE NATURE OR CHARACTERISTICS OF YOUR WASTE STREAM. WHEN THESE CHANGES OCCUR AND THE NATURE OF THE WASTE STREAM HAS CHANGED, WE MUST BE NOTIFIED AND A NEW WCSD SHEET MUST BE WRITTEN AND PUT ON FILE.

PAGE 3 (THE ANNUAL ANALYSIS UPDATE) OF THE WCSD SHEET DOES NOT APPLY TO LOUISIANA DIVISION WASTE STREAMS AND THIS PAGE DOES NOT NEED TO BE COMPLETED. PAGES 1 AND 2 MUST BE COMPLETED, THE DATA MUST BE ACCURATE AND ALL QUESTIONS MUST BE ANSWERED. THE WCSD SHEET MUST BE SIGNED AND DATED.

A SET OF INSTRUCTIONS FOR THE WCSD SHEETS IS ATTACHED.

THE BLUE (ORIGINAL) WCSD SHEET IS AN OFFICIAL DOCUMENT. DO NOT MAKE XEROX COPIES, USE THE BLUE SHEETS ONLY. WE WILL SEND YOU ALL THE DATA SHEETS YOU NEED. THE COMPLETED DOCUMENT MAY BE COPIED FOR YOUR FILES.

WE MAY REQUIRE THAT SOME ANALYTICAL TESTS BE RUN FOR SOME WASTE STREAMS RATHER THAN RELY ON PROCESS KNOWLEDGE.

I WOULD LIKE TO MAKE TWO COMMENTS, ONE ABOUT pH AND ONE ABOUT FLASHPOINTS.

THE INFORMATION ABOUT pH IS IMPORTANT TO US BECAUSE ALMOST ALL OUR TANKS AND PROCESS LINES ARE CARBON STEEL. MOST PEOPLE DO NOT THINK THAT pH IS IMPORTANT FOR HEAVY SLUDGES, SLURRIES, AND SOLIDS. THESE MATERIALS MAY BE HANDLED IN OUR SLUDGE SYSTEM WHICH IS CARBON STEEL AND THEREFORE IT IS IMPORTANT TO US. WE ALSO HAVE ONE DIRECT BURN LINE THAT IS DESIGNED TO HANDLE ACID AND CORROSIVE MATERIAL. GOOD pH DATA ALLOWS US TO MAKE GOOD DECISIONS ON OUR END. IF AT ALL POSSIBLE, WE SUGGEST YOU RUN pH IN THE LAB.

DAK:8/87

WASTE DISPOSAL STANDARDS FOR LOUISIANA DIVISION GENERATORS

SECTION 3 - WASTE CHARACTERIZATION SUMMARY DATA SHEETS (WCSD)

THE FLASHPOINT IS USED TO HELP CLASSIFY WASTE STREAMS AS HAZARDOUS OR NON HAZARDOUS. IF THE WASTE STREAM IS A COMBINATION OR MIXTURE OF MATERIALS (AND IT USUALLY IS) THE QUESTION IS DO YOU REPORT THE FLASHPOINT ON EACH CONSTITUENT, THE MAJOR CONSTITUENT, THE OVERALL MIXTURE OF MATERIAL, OR THE CONSTITUENT WITH THE LOWEST FLASHPOINT. SINCE WE DO NOT REQUIRE THE FLASHPOINT BE RUN ANALYTICALLY, MOST PEOPLE LOOK UP THE DATA AND REPORT THE LOWEST FLASHPOINT IN THE MIXTURE. IF AT ALL POSSIBLE, WE SUGGEST YOU RUN A FLASHPOINT ON YOUR WASTE STREAMS.

IN ADDITION TO THE WCSD WE REQUEST MATERIAL HANDLING SAFETY DATA SHEETS. THESE SHEETS ARE NECESSARY BECAUSE THEY GIVE US IMPORTANT INFORMATION ON HOW TO HANDLE SPILLS AND FIRE. WE NEED TO HAVE THESE IN OUR FILES RATHER THAN HAVE TO MAKE AN EMERGENCY PHONE CALL WHEN A PROBLEM ARISES.

ANALYTICAL DATA PAGE INSTRUCTIONS (DOES NOT APPLY TO LOUISIANA DIVISION WASTE STREAMS)

A FINAL NOTE: PLEASE DO NOT DUPLICATE BLANK WASTE CHARACTERIZATION DATA SHEETS. THE BLUE COPY IS CONSIDERED TO BE OUR OFFICIAL ANALYTICAL DOCUMENT. DESTROY OLD WASTE CHARACTERIZATION DATA SHEETS. USE ONLY THE LATEST UPDATED DOCUMENT.

DAK:8/87

ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY SHEET INSTRUCTIONS

PLEASE ANSWER ALL QUESTIONS AS COMPLETELY AND AS ACCURATELY AS POSSIBLE.

PLEASE SEND ANY SUPPLEMENTAL INFORMATION SUCH AS MATERIAL SAFETY DATA SHEETS IF AVAILABLE.

DEQ/EPA WASTE NUMBER _____

- A. IF YOU HAVE DETERMINED YOUR WASTE STREAM IS DEFINED AS A HAZARDOUS WASTE, WRITE IN THE HAZARDOUS WASTE NUMBER (EXAMPLE: D001, F003 OR PROPER U P OR K NUMBER). DO NOT USE MORE THAN ONE HAZARDOUS WASTE NUMBER; MULTIPLE DESCRIPTIONS SUCH AS F001/D002 ARE NOT ACCEPTABLE.**
- B. IF THE WASTE STREAM IS NON-HAZARDOUS, PLEASE LEAVE BLANK. WE WILL ASSIGN A LOUISIANA NON-HAZARDOUS WASTE NUMBER.**
- C. IF THE WASTE STREAM IS PRODUCED IN THE LOUISIANA DIVISION, PLEASE LEAVE BLANK. IT WILL BE FILLED IN BY ENVIRONMENTAL OPERATIONS PERSONNEL.**

TYPE NUMBER _____

PLEASE LEAVE BLANK. THE WASTE TYPE NUMBER WILL BE ASSIGNED BY LOUISIANA DIVISION ENVIRONMENTAL OPERATIONS PERSONNEL.

- 1. CONTACT _____
YOUR NAME**
- 2. PHONE NUMBER _____
YOUR PHONE NUMBER, INCLUDING AREA CODE AND EXTENSION IF APPLICABLE.**
- 3. PLANT _____
YOUR PLANT, LOCATION OR DIVISION**
- 4. ACCOUNT NUMBER _____
YOUR ACCOUNT NUMBER (PLEASE NOTE IF YOU ARE AN OFFSITE GENERATOR ONLY ONE ACCOUNT NUMBER WILL BE USED FOR YOUR LOCATION)**
- 5. WASTE NAME _____
THE COMMON NAME FOR THE WASTE STREAM. PLEASE START WITH A NOUN RATHER THAN AN ADJECTIVE. EXAMPLE: "URETHANE FOAM" IS BETTER THAN "SCRAP URETHANE FOAM" OR "WASTE RIGID URETHANE FOAM". THIS METHOD ALLOWS US TO SORT ON THE BASIS OF NAME.**
- 6. IDENTIFIED BY PROCESS KNOWLEDGE _____
A BRIEF DESCRIPTION OF WHERE AND HOW THE WASTE WAS GENERATED. EXAMPLE: "SCRAP WASTE URETHANE FOAM INSULATION COMING OUT OF THE CHLORINE II PLANT. SOME FOAM MAY BE CONTAMINATED WITH SPILLED CHEMICALS".**

ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY SHEET INSTRUCTIONS

7. IDENTIFICATION BY COMPOSITION:

LIST THE COMMON NAME OR CHEMICAL NAME OF THE CONSTITUENTS THAT MAKE UP THE WASTE STREAM.

FILL IN THE TYPICAL CONCENTRATION OF EACH CONSTITUENT AND THE CONCENTRATION RANGE OF EACH CONSTITUENT. OFTEN THE RANGE OF THE CONCENTRATION MAY VARY BY +/- 5-8%. A RANGE OF 0-100% IS UNACCEPTABLE.

CHECK THE PROPER COLUMN - PROCESS KNOWLEDGE OR ANALYSIS - FOR EACH LISTED CONSTITUENT.

8. FLASHPOINT: _____ DEG F.

A. IF YOU HAVE RUN A FLASHPOINT ON THE WASTE STREAM, LIST THE FLASHPOINT AND CHECK THE COLUMN MARKED ANALYSIS.

B. IF A FLASHPOINT WAS NOT MEASURED ANALYTICALLY, LOOK UP AND REPORT THE LOWEST FLASHPOINT OF THE CONSTITUENTS THAT MAKE UP THE WASTE STREAM: CHECK THE COLUMN MARKED PROCESS KNOWLEDGE.

C. SOME SOLIDS HAVE KNOWN, RELATIVELY LOW FLASHPOINTS. IF APPLICABLE, LIST IT. MANY SOLIDS HAVE A FLASHPOINT WAY ABOVE 140 DEG F. IF THIS IS THE CASE, SHOW THE FLASHPOINT AS 140 DEG F. AND CHECK THE COLUMN MARKED PROCESS KNOWLEDGE. DO NOT WRITE IN N/A FOR NOT APPLICABLE.

D. IF EXEMPT (WATER ALCOHOL SOLUTIONS) CHECK BLANK.

9. pH _____

A. LIST THE pH VALUE FOR WATER BASED SOLUTIONS AND CHECK PROCESS KNOWLEDGE OR ANALYSIS IF MEASURED.

B. IF THE WASTE STREAM IS A LIQUID OR A SOLID THAT IS WATER SOLUBLE, LIST THE pH OF THE SOLUTION. CHECK THE PROPER COLUMN - PROCESS KNOWLEDGE OR ANALYSIS.

C. IF THE WASTE STREAM IS NOT A WATER SOLUTION OR SOLUBLE IN WATER, LIST THE pH AS N/A (NOT APPLICABLE) AND CHECK THE PROPER COLUMN - PROCESS KNOWLEDGE OR ANALYSIS.

10. CORROSIVE TO STEEL? _____

ANSWER YES OR NO USING THE EPA CORROSIVITY TEST AS A BASIS FOR YOUR ANSWER (1/4" OF STEEL/YR). CHECK THE APPROPRIATE COLUMN - PROCESS KNOWLEDGE OR ANALYSIS - IF ACTUALLY MEASURED.

11. CONSTITUENTS OF CONCERN:

A. PLEASE CHECK ALL APPROPRIATE BLANKS AND EITHER PROCESS KNOWLEDGE OR ANALYSIS.

B. IN SOME CASES, MORE THAN ONE BLANK SHOULD BE CHECKED

C. PLEASE NOTE STARRED ITEMS (*) MUST BE ANALYZED ON AN ANNUAL BASIS IF THE WASTE STREAM IS CLASSIFIED AS HAZARDOUS AND GENERATED OUTSIDE OF THE LOUISIANA DIVISION (THE ONLY EXCEPTIONS ARE LABORATORY WASTES).

12. PHYSICAL STATE (AT 70 DEG F)

PLEASE CHECK THE APPROPRIATE BLANKS.

ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY SHEET INSTRUCTIONS

13. PUMPABLE AT 70 DEG F.
PLEASE CHECK THE APPROPRIATE BLANK.
14. EP TOXIC
PLEASE CHECK THE APPROPRIATE BLANK AND THE APPROPRIATE COLUMN.
CHECK THE ANALYSIS COLUMN ONLY IF YOU HAVE RUN THE LEACHATE TEST.
15. CHEMICAL REACTIVITY (DESCRIBE)
PLEASE DESCRIBE AS ACCURATELY AS POSSIBLE. THE RANGE MAY BE FROM INERT OR NON REACTIVE (EXAMPLES: MAY INCLUDE DIRT, CONCRETE, ETC.) TO EXTREMELY REACTIVE SPECIES SUCH AS GRIGNARD REAGENTS OR COMPOUNDS THAT AUTO POLYMERIZE.
16. EXPLOSION/FIRE HAZARD (DESCRIBE)
PLEASE DESCRIBE AS ACCURATELY AS POSSIBLE. RANGE MAY GO FROM NON BURNABLE (CONCRETE, DIRT, ETC.) TO EXTREMELY FLAMMABLE (LOW FLASH-POINT AND HIGH BTU'S). INDICATE PROPER TYPE OF FIRE FIGHTING METHODS AND PERSONAL PROTECTIVE GEAR WHEN FIGHTING FIRES.
17. PERSONAL HANDLING/EXPOSURE PRECAUTIONS (DESCRIBE)
PLEASE DESCRIBE WHAT YOU REQUIRE YOUR PEOPLE TO WEAR WHILE HANDLING THIS WASTE IN YOUR PLANT. WHAT DO YOU REQUIRE FOR A SPILL? WHAT IS THE BEST WAY TO HANDLE A SPILL?
18. MATERIALS OF CONSTRUCTION COMPATIBILITY (DESCRIBE)
NORMAL MATERIALS OF CONSTRUCTION FOR US ARE CARBON STEEL PIPING, TANKS, AND PUMPS. GARLOCK GASKETS AND RUBBER HOSES. PLEASE DETAIL PROBLEM AREAS CLEARLY, SOME WASTES ARE ACID AND REQUIRE TEFLON, PPL, OR KYNAR. SOME WASTES ATTACK RUBBER HOSES, SOME REACT WITH ALUMINUM, COPPER, OR OTHER MATERIALS OF CONSTRUCTION. THIS INFORMATION IS ALSO CRITICAL FOR YOUR TRANSPORTER!
19. HOW CONTAINED:
PLEASE DESCRIBE THE WAY THE WASTE IS NOW CONTAINED. PLEASE TELL ME HOW YOU PREFER TO SHIP IT.
20. VOLUME OF WASTE (IN POUNDS)
GIVE ME YOUR BEST ESTIMATE OF WHAT TO EXPECT. HOW LARGE IS YOUR INVENTORY? WHAT IS YOUR EXPECTED ANNUAL GENERATION-RATE? IS THIS A ONE TIME WASTE?

SOURCE PLANT SUPERINTENDENT _____

ENTER EITHER THE LOCATION WASTE MANAGER'S NAME OR THE GENERATING PLANT SUPERINTENDENT'S NAME.

THE REMAINING BLANKS ON PAGE 2 ARE FOR OUR USE HERE IN LOUISIANA DIVISION. PLEASE REVIEW THIS DETAIL WHEN YOU RECEIVE THE COPY BY RETURN MAIL.

ANALYTICAL DATA PAGE INSTRUCTIONS

PLEASE FILL IN THE WASTE NAME AND YOUR LOCATION.

MAKE SURE YOU KEEP IN CONTACT WITH THE GENERATING PLANT AND INDICATE IF THERE HAS BEEN A PROCESS CHANGE.

TEST METHODS MUST BE INDICATED FOR EACH ANALYSIS. PLEASE SHOW CONCENTRATIONS SUCH AS PERCENT, PPM, $\mu\text{g}/\text{GR}$, ETC. FOR EACH ANALYSIS.

FINALLY, SIGN AND DATE THIS DOCUMENT.

A FINAL NOTE: PLEASE DO NOT DUPLICATE BLANK WASTE CHARACTERIZATION DATA SHEETS. THE BLUE COPY IS CONSIDERED TO BE OUR OFFICIAL ANALYTICAL DOCUMENT. DESTROY OLD WASTE CHARACTERIZATION DATA SHEETS. USE ONLY THE LATEST UPDATED DOCUMENT.

ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY

ALL QUESTIONS MUST BE ANSWERED BEFORE WASTE CAN BE ACCEPTED FOR DISPOSAL
SEE INSTRUCTIONS ATTACHED

DEQ/EPA WASTE NUMBER: _____ TYPE NUMBER: _____

1. CONTACT _____ 2. PHONE NO. _____
3. PLANT _____ 4. ACCOUNT NO. _____
5. WASTE NAME _____
6. IDENTIFICATION BY PROCESS KNOWLEDGE _____

7. IDENTIFICATION BY COMPOSITION:

CONSTITUENT	CONCENTRATION TYPICAL - RANGE	PROCESS KNOWLEDGE	ANALYSIS
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
TOTAL OF ALL CONSTITUENTS	100%	_____	_____

8. FLASHPOINT: _____ DEG F. (EXEMPT _____)
9. pH _____
10. CORROSIVE TO STEEL? _____
11. CONSTITUENTS OF CONCERN:
A. TOTAL HALOGEN CONTENT
(%Cl _____ %Br _____ %F _____)
B. NON-HALOGENATED ORGANICS:
<1% _____, 1-10% _____, >10% _____
C. PCB'S: <50 PPM _____, >50 PPM _____
D. FREE CHLORINE: PRESENT _____, ABSENT _____
E. SAND, DIRT, DEBRIS
<1% _____, 1-10% _____, >10% _____
F. WATER: <1% _____, 1-10% _____, >10% _____

*ANALYSIS REQUIRED FOR EPA HAZARDOUS WASTES GENERATED OUTSIDE
LOUISIANA DIVISION. SEE ITEM 21 FOR SUPPLYING THIS INFORMATION.

ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY

11. CONSTITUENTS OF CONCERN (CONTINUED)

PROCESS
KNOWLEDGE ANALYSIS

G. SULFUR: <0.7% _____, 0.7-10% _____, >10% _____ *
H. LEAD: <100 PPM _____, >100 PPM _____ *
I. MERCURY: <100 PPM _____, >100 PPM _____ *
J. NITROGEN: <1% _____, 1-10% _____, >10% _____ *
K. SODIUM: <1% _____, 1-10% _____, >10% _____
SODIUM SALTS _____ ORGANIC BOUND SODIUM _____
L. HEAT OF COMBUSTION (BTU'S/LB)
≤5000 _____ 5-15000 _____ >15000 _____ *

12. PHYSICAL STATE (AT 70 DEG F.) DENSITY _____ #/GAL OR #/F3
LIQUID _____ SOLID _____ SLUDGE _____ SLURRY _____

SINGLE PHASE _____ MULTI-PHASE _____ SOLIDIFIED _____

13. PUMPABLE AT 70 DEG F. YES _____ NO _____

14. EP TOXIC? YES _____ NO _____

15. CHEMICAL REACTIVITY (DESCRIBE): _____

16. EXPLOSION/FIRE HAZARD (DESCRIBE): _____

17. PERSONAL HANDLING/EXPOSURE PRECAUTIONS (DESCRIBE): _____

18. MATERIALS OF CONSTRUCTION COMPATIBILITY (DESCRIBE): _____

19. HOW CONTAINED: _____

20. VOLUME OF WASTE MATERIAL (IN POUNDS):

INVENTORY: _____ ANNUAL RATE: _____
ONE-TIME WASTES _____

SOURCE PLANT SUPERINTENDENT _____

DATE _____

LAD ENVIRONMENTAL OPERATIONS SUPERVISOR _____

DATE _____

TO BE COMPLETED BY ENVIRONMENTAL OPERATIONS PERSONNEL ONLY:

REQUIRED PACKAGING: _____

DISPOSAL METHOD: _____

*ANALYSIS REQUIRED FOR EPA HAZARDOUS WASTES GENERATED OUTSIDE
LOUISIANA DIVISION. SEE ITEM 21 FOR SUPPLYING THIS INFORMATION.

**ENVIRONMENTAL OPERATIONS WASTE CHARACTERIZATION SUMMARY
ANNUAL ANALYSIS UPDATE**

WASTE TYPE NUMBER (LA DIV ONLY): _____

WASTE NAME: _____

PLANT OR LOCATION: _____

21. ANALYTICAL INFORMATION (REQUIRED FOR EPA HAZARDOUS WASTES GENERATED OUTSIDE LOUISIANA DIVISION)

ANALYTICAL TESTS A, B, C, D, AND E NEED TO BE COMPLETED AND THE RESULTS MUST BE REPORTED AT THE TIME THE WASTE CHARACTERIZATION DATA SHEET IS INITIALLY SUBMITTED. ANALYTICAL TESTS A AND E MUST BE REPEATED ANNUALLY. IF A PROCESS CHANGE OCCURS THAT COULD RESULT IN A CHANGE IN THE NATURE OR CHARACTERISTICS OF THE WASTE, A NEW WASTE CHARACTERIZATION DATA SHEET AND A COMPLETE SET OF ANALYSES MUST BE SUBMITTED.

HAS THERE BEEN A PROCESS CHANGE IN THE PAST 12 MONTHS THAT COULD HAVE CHANGED THE NATURE OR THE CHARACTERISTICS OF THE WASTE STREAM? YES _____ NO _____

	<u>TEST METHOD</u>	<u>CONCENTRATION</u>
A. TOTAL HALOGEN CONTENT (WT % AS CHLORIDE)	_____	_____
B. SULFUR CONCENTRATION (WT %)	_____	_____
C. LEAD CONCENTRATION (WT %)	_____	_____
D. MERCURY CONCENTRATION (WT %)	_____	_____
E. HHV (BTU/#)	_____	_____

I CERTIFY THAT THE INFORMATION IN THIS SECTION IS TRUE, ACCURATE AND COMPLETE.

SIGNATURE AND TITLE

DATE

REV: 3/30/87 DAK

ATTACHMENT 2

Personnel Training Plan

TRAINING PLAN
DOW CHEMICAL USA

Louisiana Division

The information contained in this plan outlines the personnel training program for Dow's hazardous waste management facilities in accordance with the requirements of LAC 33:V.517 and 1515. Additional responses are provided in Appendix A through F of this plan.

Facility personnel are to be trained in a program utilizing both classroom instruction and on-the-job training. Included in this program is an employee checklist covering general policies and procedures for the company as a whole as well as specific items for each hazardous waste unit.

Outlines of these programs describing the various elements required by this section are provided in the following paragraphs. The text which follows applies equally to all hazardous waste management units unless specified otherwise. To the extent that a single unit may differ from the general description, separate sections describing specific procedures are provided in each of the unit Appendix A through F.

The personnel training program is to be directed primarily by the Safety and Training Supervisor in each plant having a hazardous waste management unit. These supervisors are to be trained in all aspects of hazardous waste management appropriate for the type of wastes handled at their unit.

The program developed at Dow for training employees in the safe handling of hazardous wastes has been organized into various "training manuals" tailored to each unit's particular operation. Provisions are made for updating or revising the text as necessary to insure continued compliance with all applicable regulation and permit limits. Outline of each of these manuals may be found in Appendix A through F.

With the aid of these manuals and instruction from the training director, employees are to be instructed on (1) the hazardous nature of chemicals and chemical wastes, (2) compliance with RCRA and LHWR, (3) plant operations and the proper handling, storage, and treatment of their associated wastes, and (4) Emergency procedures and contingency plan including:

- Emergency and monitoring equipment
- Waste feed cut-off system
- Communication and alarm system
- Fires and explosions
- Spills, leaks, or other threats to ground water
- Shutdown procedures

The Dow Personnel Training Program is to be reinforced by a series of guidelines published by both the Corporate and Division Safety and Loss Prevention Program which deals with many aspects of working safely with the vast number of different chemicals and chemical processes at Dow. Refer to Exhibit 7, for a listing of these manuals. These, as well as the above-mentioned manuals, are to

be kept on file at the facility and are to be available to LDEQ officials for review.

This facility is also to conduct training sessions for its operations personnel on the proper procedures for responding to emergencies which may require the implementation of the plant's contingency plan, or require action from either the plant's emergency response team, plant Fire Department, or local fire and police departments. All of the above groups are to be involved in an on-going program which includes familiarization of plant layout, location and operation of emergency equipment, evacuation plans and routes, power and waste stream cut-off, communications equipment, names, and phone numbers of all required contacts. For more information on this aspect of the training program, refer to the Contingency Plan.

All new personnel are to complete this training program within six months of assignment to any area handling hazardous waste. No employee hired to work at this facility will work unsupervised prior to completion of the training program.

Personnel are required to meet at least annually for review and update of this training program which includes the following subjects:

- Hazardous Waste Management
- SPCC Review
- Industrial Hygiene
- Respirator Training, Emergency Response
- Operation of Equipment

The various categories of employees actually handling hazardous waste at each facility are given in Appendix A through F. These job titles and the names of the employees currently filling each job are to be maintained at each facility as required by this section. These names are to be updated continuously as personnel are transferred within the Division. Management responsibilities involving compliance with LHWR, but not involving actual handling of the wastes, are split between the training supervisor and the plant superintendent. Maintenance personnel (i.e., electricians, mechanics, and other trades people) work in the waste handling area, but do not handle wastes directly. These maintenance personnel must have been trained in working around hazardous materials and equipment throughout the plant. Within each hazardous waste facility, however, they are to be under direction and control of appropriate plant personnel.

A written job description outlining the duties, responsibilities, and qualifications of each position listed above must have been prepared and be kept on file at the facility.

Written description of both the introductory as well as the continuing training programs must be maintained at the facility.

Training and job experience records are to be kept on file at the facility.

Training records for each hazardous waste unit must be kept until closure of that particular unit for current employees and for three years from the date of the individual employee's termination for former employees.

Exhibit 7

Exhibit CYCLE 2

§ 9.8a)3)

SAFETY & LOSS PREVENTION GUIDELINE

SERIES LIST

_____ Air Travel - Policy & Guideline (April 1980)
_____ Fire & Explosion Index Hazard Classification Guide (5th Edition
October 1980 - 2nd Printing November 1981)
_____ Guidelines for Accident Investigation (January 1982)
_____ Guidelines for Business Data and Process Control Computer Systems
(March 1982)
_____ Guidelines for a Contractor Safety, Loss Prevention and Security
Program (December 1983)
_____ Guidelines for Determining Dust Hazard Potential (June 1982)
_____ Guidelines for Emergency Planning (June 1979)
_____ Guidelines for Handling Dow Proprietary Information (July 1981)
_____ Guidelines for Hearing Conservation Program (July 1979)
_____ Guidelines for a Motor Vehicle Accident Prevention Program (April
1981)
_____ Guidelines for Office Safety (December 1979)
_____ Guidelines for a Personal Protective Clothing and Equipment (May 1981)
_____ Guidelines for Personal Safety & Security at Hotels/Motels and
other Off-Premises Facilities (July 1981)
_____ Guidelines for a Reactive Chemicals Program (August 1981)
_____ Guidelines for Safe Sample Shipping (April 1981)
_____ Guidelines for Safety & Loss Prevention Audits (March 1980)
_____ Guidelines for Safety & Loss Prevention Reporting (not applicable
to U.S. Area) (March 1981 3rd Edition)
_____ Guidelines for Safety on Non-Dow Premises (December 1980 - 2nd
Edition)
_____ Guidelines for Warehouse Rating Guide (March 1980)
_____ Minimum Requirements (April 1984)
_____ U.S.A. Guidelines for Safety/Loss Prevention/Security Reporting
(January 1982)

TRAINING PLAN

APPENDIX A

CA II Plant Surface Impoundment

The information contained in this section outlines the personnel training program for CA II.

Training Content - An outline of the content of the training is shown in Exhibit 37. This outline is revised or updated as necessary to insure compliance under the guidance of the Environmental Department. During the training program, the employees are to be instructed on:

1. Training requirements, responsibilities and records.
2. The hazardous nature of chemicals and chemical wastes in general, and chemical wastes in the plant.
3. The purpose and importance of compliance with regulations.
4. The nature of the wastes stored in the impoundment.
5. Proper handling and operating procedures.
6. Emergency procedures and contingency plan.

Training Personnel and Structure - Since CA II is a production unit, and waste storage is only one aspect of plant operations, dual training systems and structures exist.

Operations Training - Under both a Division and plant program, training is to be administered by the safety and training supervisor under the guidance of plant staff. This system trains and qualifies operations personnel for plant operations. Note that a close relationship exists between training and safety.

Environmental Training - Under both a Division Environmental Department and plant program, training is to be administered by the environmental engineer and the environmental technician. This system trains and qualifies operations personnel for environmental work. Safety, emergency plan, reactive chemicals and contingencies are covered under both systems, making the training redundant in these areas.

Relevance of Training to Job Position - The Environmental Training Plan is not tiered. It is felt that the nature of the subject at the same level.

Training for Emergency Response - The training program is to be designed to insure that personnel not only handle hazardous wastes in a safe manner, but also properly respond to emergency situations. The program is to train the personnel to maintain compliance under both normal operating conditions and emergency conditions. See Exhibit 37 for an outline of the training program.

In addition to the plant personnel, the Division Fire Department is on standby for response to all fires and general plant emergencies. Fire Department personnel are trained both with classroom methods and fire drills.

In addition to plant personnel, the Division Environmental Department and Environmental Operations Plant must maintain an emergency response unit on

standby for response to environmental emergencies. Environmental Department and Environmental Operations personnel must train both with classroom training and hands-on drills.

Implementation of Training Program - All plant personnel have been fully trained at the time of this submittal. In the future, all new personnel will complete this training program within six months of their date of employment in CA II. No employee hired of the training program.

The employees are required to take a yearly refresher course of the training program after review and updating by the environmental engineer and the environmental technician. Time is to be allotted for discussion and questions.

If a significant process or operations change occurs at any time, the employees are required to take training sessions on the changes. These sessions must also be fully documented and filed. The new material is to be included from then on in the training course.

For minor changes or new procedures, communiques are issued. All the employees are required to read, understand, and implement the material. Signed copies are kept on record.

These records documenting the job title for each position, job descriptions, names of employees, and completed training programs (both introductory and review) are to be kept in the environmental records file. These records will be kept until closure of the facility for current employees and three years from the date of the individual employee's termination for former employees.

A sample of the signature page is provided as Exhibit 38.

The annual training program is to consist of a repeat of those items covered in the initial training program. Refer to Exhibit 37.

Dow Chemical USA must maintain the following documents and records at the facility:

1. The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;
2. A written job description for each position listed in 1. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications and duties of employees assigned to each position;
3. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed in 1 and
4. Records documenting that the training or job experience required have been given to, and completed by, facility personnel.

EXHIBIT 37

{9.8a)3}

ECOLOGY TRAINING PROGRAM FOR PERSONNEL INVOLVED IN HAZARDOUS WASTE MANAGEMENT

CA II PLANT SURFACE IMPOUNDMENT

PART I INTRODUCTION

1. Training Requirements

- 1.1 Spelled out in the Hazardous Waste Management Plan.
- 1.2 Training of personnel is required for compliance with LHW.
- 1.3 All personnel should be properly trained before working unsupervised.
- 1.4 Yearly retraining is required also.
- 1.5 Training when regulations change or are amended is required.
- 1.6 Significant process changes require training.

2. Training Responsibility

- 1.1 It is the responsibility of the environmental technician and the environmental engineer to properly train operations personnel in ecology matters.
- 1.2 Operations personnel may and should request additional training at any moment that he/she feels necessary to perform the job properly following all rules and regulations.

3. Training Records

- 2.1 Training outline required.
- 2.2 Job title, date and signature of trainee required.
- 2.3 Job title, date and signature of trainer required.

4. Chemical Hazards

- 4.1 Hazardous chemicals in the plant.
- 4.2 The Resource Conservation and Recovery Act (RCRA).
- 4.3 The Louisiana Hazardous Waste Rules (LHWR).

PART II
LOUISIANA HAZARDOUS WASTE RULES

1. Routine Plant Operations

- 1.1 Operator's rounds to inspect equipment and condition of facilities.
- 1.2 Routine maintenance of equipment.
- 1.3 Housekeeping.
- 1.4 Control center monitoring of automatic and computer controlled operation.
- 1.5 Filing logs and plant and environmental records.
- 1.6 Security.

2. Temporary Storage of Hazardous Waste

- 2.1 Storage site.
- 2.2 Handling, storage and disposal procedures.
- 2.3 Inspection of containers.
- 2.4 Container labeling.
- 2.5 Aisle space.
- 2.6 Action on severe leakage.

3. Operation of Impoundment (WP-801)

3.1 Descriptions

- 3.1.1. Description of facility.
- 3.1.2. Description of wastes.
- 3.1.3. Key terms of the permit.

3.2 Inspections

- 3.2.1. Levee integrity and erosion.
- 3.2.2. Improper operation or malfunction.
- 3.2.3. Freeboard and overfilling.
- 3.2.4. Leaks and leachate system.
- 3.2.5. Wind action and waves.

3.3 Action on Severe Leak (loss of level)

- 3.3.1. Stop addition of liquid.
- 3.3.2. Notify and stop the leak.
- 3.3.3. Take measures to avoid catastrophic failure.
- 3.3.4. Empty impoundment.
- 3.3.5. Remove from service.

Exhibit 37
CA II Plant
Page 3

PART III

EMERGENCY PROCEDURES CONSIDERATIONS AND PLANT ROLE IN CONTINGENCY PLAN

1. Plant layout.
2. Location of Possible hazards.
3. Safety/emergency equipment location and proper operation.
4. Use, inspection, repair, replacement of block emergency and monitoring equipment.
5. Block/Division communication and alarm systems, their location and use.
6. Emergency procedures.
7. Shutdown of operations.
8. Spill control and response to groundwater contamination incidents.
9. Power cutoffs.
10. Block response to fires and explosions.
11. Hurricanes, tornadoes, and severe storms.
12. Evacuation plan and route.
13. Emergency coordinator.
14. Phone numbers of all plant contacts.

**CHLORALKALI II
ECOTOLOGY
TRAINING PROGRAM FOR PERSONNEL INVOLVED
IN HAZARDOUS WASTE MANAGEMENT**

I ATTENDED THE TRAINING SESSION, THE CONTENT OF WHICH IS SUM-
MARIZED IN THE PREVIOUS PAGES (PART I,II,III). I UNDERSTAND
ALL INFORMATION PRESENTED.

[illegible]

TRINERS SIGNATURE	JOB TITILE	DATE
-----	-----	-----
-----	-----	-----
-----	-----	-----

TRAINING PLAN

APPENDIX B

Solvents Plant

The program developed at the Solvents block for training employees in the safe handling of hazardous wastes has been organized into a series of training manuals. Provisions are made for updating or revising the test as necessary to ensure compliance with all applicable laws and regulations. Each employee has his or her own copy of the "New Hire Manual". This manual is given to all new employees and covers the safety rules and equipment as well as the chemical hazards in the Solvents block. In addition to the "New Hire Manual", all employees must satisfactorily complete the appropriate check sheet, Solvents Department Orientation for Non-Exempt Employees (operators) or the Training Outline for New Technical Employees (see Exhibit 22), before being allowed to handle hazardous waste. Additional training is an on-going process. Before an operator can be classified as the incinerator SOT, her or he must complete a more detailed training course, which includes emergency procedures and incinerator operations. After this training, the operator is given an oral proficiency exam before classification is complete. Before an operator can be classified as the incinerator OS, he or she must complete a more detailed training course which includes emergency procedures, incinerator operations, and incinerator theory. After this training, the operator is given an oral proficiency exam before classification is complete. An outline of the operator's training content is listed in Exhibit 23 and an outline of the relevant sections of all manuals is given in Exhibit 24. A copy of the Thermal Oxidizer Training Manual and the Solvents Relief Manual is kept in the control room and is available to EPA and State officials for review.

The technical person in charge of the incinerator must complete the Training Outline for New Technical Employees, which includes reading the Thermal Oxidizer Training Manual and the Solvents Relief Manual, before taking responsibility for the area. An annual training course in "Louisiana Hazardous Waste Regulations" is also a part of the technical training. The technical person gives an annual training session to all operators on hazardous waste. This training is documented. An outline of the training program is listed in Exhibit 25.

Records of personnel who have completed the program are kept at Solvents. Samples of signature pages may be seen on Exhibit 22 and 25.

All documents and records covering the job titles listed below and the names of the employees filling each job are maintained at Solvents.

Personnel handling hazardous waste:

Production Engineer
Training and Safety Supervisor
Shift Supervisor
Operations Specialist
Senior Operations Specialist

Written job descriptions are to be maintained at Solvents. A sample job description is provided as Exhibit 26.

Training and job experience records are on file at Solvents.

TRAINING OUTLINE FOR NEW TECHNICAL PEOPLE

1. New employee indoctrination (SAFETY SUPERVISOR - 1 WEEK)
 - A. Introduction to personnel and duties of each.
 - B. Cover new employee manual (Safety & Processes).
 - C. Tour of Division pointing out Stock, Shops, Cafeteria, Engineering, Credit Union, Insurance, Medical, Tool Room, Purchasing, etc.
 - D. Begin taking new employee Safety Training (Dupont Nest).

2. Familiarization: READ THE FOLLOWING
 - A. Relief Manual
 - B. S&LP and Safety References
 - C. Reactive Chemicals Program
 - D. Pressure Vessel Program
 - E. Solvents Operating Manuals
 - F. Loss Prevention Principles
 - G. Supervisors Manual
 - H. Emergency Plan

3. Meet with the following people and become familiar with their duties.
 - A. Solvent's Maintenance Supervisor
 - B. Solvent's Material Controller
 - C. Phil Dozier, Contract Maintenance Supervisor
 - D. Ken Carr, Contract Electrical Supervisor
 - E. Darrell Jones, Fab Shop
 - F. Micky Hunt, Machine Shop
 - G. Harold Son, PSV Shop
 - H. Willie Wyatt, Rotating Equipment, Vibration Testing, Balancing
 - I. Art Bourg, Chlorinated Hydrocarbon Maintenance
 - J. Safety Superintendent
 - K. Paul Rozas, Major Manager
 - L. Boyd Horton, Reactive Chemicals
 - M. John Lemoine, Solvent's Computer System
 - N. Clark Cassel, Division Computer System
 - O. Ken Mail, Process Engineering
 - P. Roger Bowlin, R&D Contact
 - Q. Bettya Smith/Bobby Tullier, Central Files
 - R. Oran Suire/Cal Browning, Engineering
 - S. Charlie O'Neal/Chuck Toney, Production Planning
 - T. James O'Bairne, Purchasing

SOLVENTS TRAINING PROGRAM - TECHNICAL

PAGE 2

4. Become familiar with:

- A. Critical Equipment test schedule**
- B. Writing Capital Authorization Request**
- C. MTR's and work order numbers**
- D. VAX System**
- E. Each Solvent's Process:**
 - 1. Manuals**
 - 2. P&ID's**
 - 3. Overview with technical person**
- F. Lab/Loading Operations**
- G. Environmental considerations and requirements**

5. Spend time on shift learning shift operations

6. Take Dupont Safety Training Observation Program

TABLE 3

SOLVENTS DEPARTMENT ORIENTATION -- NON-EXEMPT EMPLOYEES

EMPLOYEE _____ DATE _____

ORIENTATION SUPERVISOR

(Week one by Safety Supervisor, weeks two and three by EDO Supervisor)

SAFETY

- _____ 1. Issue basic safety equipment.
- _____ 2. Explain purpose of equipment and demonstrate use.
- _____ 3. Have employee try on monogoggles and use mouth bit respirator.
Explain limitation on respirator.
- _____ 4. Try on and use full face mask and air pak.

MEET PEOPLE AND TOUR PLANT

- _____ 1. Plant Superintendent.
 - a. Hand out and review "Employees Notebook".
 - b. Review division organization.
 - c. Review plant organization.
 - d. Review safety indoctrination letter and department policy.
 - e. Overview of plant processes and products.
 - f. Briefly describe employees job.
- _____ 2. Introduce staff and secretary.
- _____ 3. Tour office building.
 - a. Conference Room
 - b. Control Room
 - c. Lunch Room
 - d. Restroom and Change Room
 - e. Computer Room
 - f. Lab

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NEW EMPLOYEE CHECKLIST

Page 2

TOUR OUTSIDE

- _____ 1. Demonstrate intercom use.
- _____ 2. Point out and demonstrate safety showers and alarms.
- _____ 3. Point out fire extinguishers and deluge guns.
- _____ 4. Point out special equipment/clothing areas.
- _____ 5. Shop areas:
 - a. Pipefitter
 - b. Instrument
 - c. Electrical
 - d. Millwright
- _____ 10. Block limits
- _____ 11. Check tank area
- _____ 14. Storage tank
- _____ 16. Warehouse (material controller)
- _____ 17. Thermal oxidizer
- _____ 21. Issue basic tools, boots, slicker, etc.
- _____ 22. Assign locker in change room

POLICIES: EMPLOYEE INFORMATION FILE

- _____ 5. Driving within the plant
 - a. Speed limit
 - b. Seat Belt Policy
 - c. Motorcycle restrictions
 - d. Smoking restrictions

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NEW EMPLOYER CHECKLIST

Page 3

_____ 6. Clothing restrictions

- a. Sleeveless shirts
- b. Shorts
- c. Tennis shoes

_____ 7. Facial Hair Policy

_____ 9. Reporting injuries

SAFETY EQUIPMENT USE

_____ 1. Protective equipment required. Why?

- a. Hard hat
- b. Monogoggles
- c. Full face mask
- d. Scott Air Pak
- e. Fresh Air Masks
- f. Boots
- g. Nitrile Gloves
- h. Nomex
- i. Acid suits/hood
- j. Disposable paper suit
- k. Hearing protection

_____ 2. Point out hazardous areas and safety gear required in all areas.

_____ 3. How emergencies are handled:

- a. Ext. 333 - What happens when you dial it.
- b. Division announcement
- c. Spills most likely to affect Solvents.

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NEW EMPLOYEE CHECKLIST

Page 4

SAFETY EQUIPMENT USE, (cont.)

_____ 4. Emergencies in Solvents

- a. Spill alarm, what to do when you hear it.
- b. Look at flashing red lights and warning signs and wind indicators.
- c. Review assembly areas.
- d. Discuss all clear alarm.

_____ 5. Special Safety Equipment Areas

- a. Warning signs/barricades
- b. Sulfuric areas/acid suit
- c. Hearing protection areas
- d. Monogoggles areas
- e. Nomex and rubber boots, nitrile gloves
- f. Nitrogen purging

TOUR OF DIVISION

- _____ 1. Tank Farm**
- _____ 2. Other departments**
- _____ 3. Stock**
- _____ 4. Instrument shop**
- _____ 5. Machine shop**
- _____ 6. Pipe and P&SV shop**
- _____ 7. Tool room**
- _____ 8. Medical**
- _____ 9. Fire department**
- _____ 10. Cafeteria**

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NEW EMPLOYEE CHECKLIST

Page 3

TOUR OF DIVISION, (cont.)

- _____ 11. Credit Union
- _____ 12. Gates available for employee use - explain car entry.

CHEMICAL AND SAFETY HAZARDS

- _____ 1. Review department safety rules.
- _____ 2. Review chemical hazards.
- _____ 3. Film consequences of overexposure.
- _____ 4. Chemical burns to human eye.
- _____ 5. Chemical burns to human skin.
- _____ 6. Hand trap test.
- _____ 7. Effects of nitrogen inhalation.
- _____ 8. Hydrogen fires.
- _____ 9. Effects of hot water burns.
- _____ 11. Sampling.
- _____ 14. Housekeeping.
- _____ 15. Safe work permit.
- _____ 16. Unsafe condition report.
- _____ 17. MMR
- _____ 18. Red Tag Procedures.

MISCELLANEOUS

- _____ 2. Explain training program.
- _____ 3. Explain pilot courses and Dow approved schooling.
- _____ 4. Explain tool check out.
- _____ 5. Safety test.

12/17/84

Environmental Operations
Exhibit 23-A
(9.83)a)

Revision #1
August 14, 1981

ENVIRONMENTAL OPERATIONS

INCINERATOR O.Y. TRAINING CHECKSHEET

(INCOT.EM)

SAFETY

OPP S/S

A. PERSONAL PROTECTIVE EQUIPMENT

1. WHAT IS REQUIRED IN INCINERATOR AREA?

B. IN-BLOCK PROTECTIVE EQUIPMENT

1. DISCUSS THE FOLLOWING:

(A) SAFETY SHOWER SYSTEM

(1) DISCUSS OPERATION

(B) SCOTT AIR PAK, LOCATION, USE

(C) FIRE EXTINGUISHER; TYPE, LOCATION, USE

(D) LOCATION OF FIRE WATER SYSTEM; HYDRANTS,
MONITOR GUNS

(E) SPRINKLER SYSTEMS; OPERATION, LOCATION
OF MANUAL TRIPS

(1) FEED HOPPERS, FIRE DOOR SYSTEMS

(2) SU-210 SPRINKLER

C. SAFE JOB PROCEDURES

1. DISCUSS FOLLOWING:

- (A) 0001 P-120 START-UP
0002 P-265 START-UP
0004 I-100 LOADING IE-100
0006 INC. FREEZE PROTECTION
0007 WASTE FUEL UNLOADING
0008 I-100 VESSEL ENTRY
0009 I-100 CLEANING IE-100
0011 I-100 START-UP PROCEDURE
0013 DRUM CRUSHER START-UP
0014 I-200 START-UP
0017 I-200 ROTATION PROCEDURE
0018 I-200 FEEDING FROM FLOOR
0019 I-200 OIL FEED
0020 IONIZERS - REMOVE/REPLACE WIRE
0021 IONIZERS - ACIDIZING SAFE WORK
0022 DRUMS SS SAMPLING
0023 BURNERS - UNPLUGGING POINTS
0024 WASTE FUEL - SAMPLING
0025 P-120 CLEANING FILTERS

6-200 SYSTEM

A. TRASH FEED, DISCUSS THE FOLLOWING:

1. WHAT IS PURPOSE OF THE GREEN, WHITE, AND RED LIGHTS ABOVE HOPPER. _____
2. WHY IS 1-200 AND 1-210 TEMPERATURES DISPLAYED ABOVE FEED HOPPER? _____
3. WHERE IS MANUAL CONTROL STATION FOR TRASH FEED AND WHEN IS IT USED? _____
4. GIVE THE SEQUENCE OF OPERATION WHEN TRASH FEED CYCLE IS INITIATED. _____
5. WHY DOES FEED RAM STOP IMMEDIATELY BEHIND FIRE DOOR WHEN RETRACTING? _____
6. WHAT IS PROVIDED TO REDUCE POSSIBILITY OF FIRE FLASHBACK FROM KILN TO FEED CHUTE? EXPLAIN OPERATION. _____
7. GIVE STEPS OF MANUALLY FEEDING LAB CHEMICALS IN TRASH HOPPER. _____
8. WHAT IS PROVIDED FOR PROTECTION OF KILN SYSTEM IF AN EXPLOSION OCCURS INSIDE? WHAT OTHER PURPOSE DOES IT SERVE? DESCRIBE. _____
9. WHAT ARE THE LIKELY PROBLEMS WHEN FEED RAM IS IN EXTENDED INTO KILN, HYDRAULIC SYSTEM CONTINUES TO RUN AND RAM DOES NOT RETRACT? _____
10. GIVE STEPS TO CORRECT THE PROBLEMS IN 09 ABOVE. _____
11. WHY IS IT IMPORTANT TO KEEP TRASH AND/OR OTHER WASTE CLEANED FROM BEHIND FEED RAM, TRASH HOPPER DOOR AND PAK FEED CONVEYOR AND DOOR? _____
12. WHAT SHOULD BE DONE WHEN FEED RAM LIMIT SWITCH CABLE BREAKS DURING FEED CYCLE? _____

B. PAK FEED SYSTEM - TRASH PAK - DISCUSS THE FOLLOWING

1. WHERE IS PAK FEED MANUAL CONTROL STATION LOCATED. _____
2. GIVE STEPS IN USING MANUAL CONTROL. _____
3. GIVE SEQUENCE OF OPERATIONS WHEN PAK FEED CYCLE IS INITIATED. _____
4. HOW MANY SECTIONS OF CONVEYOR AND THEIR FUNCTION? _____
5. WHAT DRIVES EACH PAK CONVEYOR SECTION. _____

6. WHAT CRITERIA DO YOU USE IN SELECTING TYPES TO LOAD ON CONVEYOR? WHY?

7. ARE LIGGERS ALLOWED IN PAKS? WHY?

8. GIVE STEPS TO CORRECT A PAK HUNG UP BETWEEN FEED PAN AND CHUTE ENTRANCE.

9. HOW WOULD YOU HANDLE A PAK THAT HAS FALLEN OVER AND SPILLED MATERIAL?

10. WHY SHOULD YOU NOT CROSS OR WALK ON CONVEYOR?

C. HYDRAULIC SYSTEM - DISCUSS THE FOLLOWING:

1. WHERE IS SYSTEM LOCATED?

2. HOW DO YOU CHECK FOR WATER IN SYSTEM?

3. WHAT IS OPERATING PRESSURE? HOW IS IT CONTROLLED?

4. WHAT TYPE OF FLUID IS USED?

5. HOW MANY SYSTEMS ARE THERE AND WHAT DO THEY CONSIST OF?

6. WHAT ACTUATES THE SOLENOIDS THAT CHANGE DIRECTION OF FLUID FLOW?

7. WHAT IS THE FUNCTION OF A SOLENOID?

8. WHAT SAFETY PRECAUTIONS SHOULD BE TAKEN WHEN EXPOSED TO HYDRAULIC FLUID AND WHY?

9. WHAT PROBLEMS OCCUR WHEN WATER CONTAMINATES HYDRAULIC FLUID?

10. WHY WOULD YOU RUN PUMPS IN MANUAL POSITION?

11. WHERE ARE THE FLUID FILTERS LOCATED?

12. HOW DO YOU DETERMINE WHEN FILTER ELEMENTS NEED CHANGING?

D. BURNERS 200,201,202,210,211. DISCUSS THE FOLLOWING:

1. GIVE LOCATION OF EACH BURNER.

2. WHAT IS PRIMARY FUEL SOURCE OF EACH BURNER?

3. WHAT IS SECONDARY FUEL SOURCE?

4. WHAT IS USED TO ATOMIZE LIQUIDS IN BURNERS?

5. WHAT SYSTEM IS PROVIDED TO ASSURE NO GAS ENTERS INCINERATOR WITHOUT FLAME?

6. WHAT IS PROVIDED TO EACH BURNER TO ASSIST START

B. FORK TRUCKS

1. KNOW AND DISCUSS THE FOLLOWING:

(A) VEHICLE PRE-CHECK BEFORE OPERATING

(B) SAFETY DEVICES AND EQUIPMENT

(C) SAFE OPERATING PRACTICES

2. WHAT IS LOAD LIMIT OF EACH FORK TRUCK YOU NORMALLY USE.

3. WHAT MEASURES DO YOU TAKE TO SECURE BEFORE DISMOUNTING FOR SHORT DURATION? FOR THE DAY?

4. WHAT ARE OBSERVATIONS THAT YOU SHOULD BE MAKING WHILE OPERATING UNDER TIPPING FLOOR? ROADWAY?

5. WHAT DO YOU DO IF LOAD IS BULKY AND HINDERS YOUR VISION?

6. HOW SHOULD YOU OPERATE ON INCLINES?

C. SKIDSTEER LOADER

1. KNOW AND DISCUSS FOLLOWING:

(A) PRE-OPERATION VEHICLE CHECKS

(B) SAFETY DEVICES AND EQUIPMENT

(C) SAFE OPERATING PRACTICES

2. WHAT SHOULD YOU DO BEFORE DISMOUNTING?

3. WHEN YOU FINISH JOB OR LEAVE MACHINE FOR EXTENDED TIME, WHERE AND HOW DO YOU SECURE?

4. WHEN IS IT PERMISSIBLE TO OPERATE OFF HARD SURFACE?

5. HOW SHOULD YOU OPERATE ON INCLINES?

6. WHAT IS PURPOSE OF PLEXIGLASS-SHIELD?

III. UTILITIES

A. DISCUSS THE FOLLOWING SYSTEMS INCLUDING MAJOR BLOCK VALVES, EXPLAIN PURPOSE, TEMPERATURE, AND PRESSURE OF EACH.

1. 3350 STEAM

2. 304 STEAM

3. CONDENSATE

4. FUEL GAS

5. NITROGEN

NEW EMPLOYEE CHECKLIST

Page 6

JOB INFORMATION AND WORK SCHEDULE

- _____ 1. Explain in general what the job will involve.
 - a. Checking/sampling
 - b. Checking equipment operation
 - d. General maintenance (EDO)
 - e. Observe operators doing some of these jobs.
- _____ 2. Explain how training will be accomplished.
 - a. Formal class room training.
 - b. Informal on-the-job training on shift.
- _____ 3. Safety Loss Prevention Standards and References
 - a. Purpose
 - b. Look at and inform where they are kept.
- _____ 4. Work Schedule
 - a. Review 12 hour shift
 - b. Five shift rotation
 - c. Give employee shift schedule.
 - d. What time to report for work tomorrow.

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EXHIBIT 23

**§ 9.8a) 3)
9.8d) 3)**

TRAINING CONTENTS FOR OPERATOR CLASSIFICATIONS

<u>Position</u>	<u>Training Content (Before Classification Is Given)</u>
1. O.T.	New Hire Manual - must complete Solvents Department Orientation Non-Exempt check sheet.
2. S.O.T	Thermal Oxidizer Training Manual - Solvents Relief Manual - and must pass oral proficiency exam.
3. O.S.	Thermal Oxidizer Training Manual - Solvents Relief Manual - and must pass oral proficiency exam.

TABLE OF CONTENTS FOR TRAINING MANUAL

TABLE 2

NEW HIRE MANUAL

I.	Introduction
	A. Superintendent's Letter
	B. Safety Test
II.	Safety Concepts for Solvents
III.	Solvents Plant Safety Rules
IV.	Industrial Hygiene Precaution
V.	Solvents Safety Policies Organization and Procedures
VI.	Safe Practices in the Use of Ladders
VII.	Effects of Nitrogen Inhalation
VII.1	Hydrogen Fires
VII.2	Card Reader Entry System
VIII.	Process Drawings
IX.	Solvents Clothing Policy
X.	Breathing Equipment Requirements
XI.	Safety Cartoon
XII.	New Employee Check Sheet
XIII.	Chemical Hazards in the Solvents Plant

SOLVENTS RELIEF MANUAL

I. SAFETY

- 1. Accident and Incident Investigations**
- 1A. Air Capsules**
- 1.5 Clothing Rules for the Solvents Block**
- 3. Electrical Safe Practices and Procedures**
- 4. Emergency Drills**
- 5. Explosimeter Calibration**
- 6. Flushing Eye Wash Before Use**
- 8. Knowledgable Contacts for Solvents**
- 11. Public Address and Radio Systems Emergency Power**
- 13. Scott Air Pak Operating and Maintenance Instructions**
- 14. Solvents Plant Safety Rules**

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II. POLICY

2. Ecology

g. PCB Record Keeping for the Solvents Thermal Oxidizer

2.9 Electrical Cord Policy

3. Emergency Response

4.5 Firewatch Policy

7.5 Process Analyzer Buildings - Entering

8. Protective Equipment Regulations

10. Sign-In Procedure

11. Spill Reporting

14. Training Policy

15. Waste Disposal

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III. PROCEDURES

- 1.3 Acidizing C-730**
- 2. Breaking and Entering Lines or Equipment**
- 3. Carbon Problems**
- 5.7 Collecting D-13 Sample for R&D**
- 9. "D" Train Acid System Preparation for Maintenance**
- 9.5. Solvents Demolition Procedure**
- 10.2 Dike Area Rain Water Pumping Procedure**
- 11. Emergency Coverage**
- 12. Emergency Procedures**
 - 12.1 Emergency Procedure - Air (Total) Failure**
 - 12.6 Emergency Procedure - River Water Failure**
- 13. Emergency Procedures for Storage or Check Tank Rupture**
- 13.5 Equipment Checklist for Returning Equipment to Service After Major Work**
- 14. Fire Watching**
- 39. Taffy Line Operation**

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THERMAL OXIDIZER TRAINING MANUAL AND C-20C OPERATIONS MANUAL

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION	
A. Purpose of Manual	1
B. General Description of System	1
C. Equipment Description	3
II. SAFETY	
A. Handling Hexes	12
B. Vinyl Heavies and Solvents Heavies	12
III. OPERATING PROCEDURES	
A. Furnace Operation, R-700	13
B. Organic Feeds to R-700	17
C. Hex Feed to R-700	19
D. Chlorine and CA II Taffy to R-700	24
E. Blowers BL-700 and BL-740	24
F. Quench System D-710 and C-720	25
G. Neutralizing Column C-730 and Stack C-740	31
H. D-92A Procedure	33

APPENDIX

I. TRAINING CHECKLIST	45
II. CONDENSED R-700 STARTUP	46
III. LIST OF SYSTEM SHUTDOWNS	47
IV. LIST OF INSTRUMENTATION AND NORMAL OPERATING CONDITIONS	48
V. INITIAL REACTOR STARTUP	50
VI. PCB PERMIT REQUIREMENTS	51

TRAINING PROGRAM FOR PERSONNEL INVOLVED IN HAZARDOUS WASTE MANAGEMENT

SOLVENTS PLANT

DATE: _____

1. Summary of training

Personnel were instructed about the following topics:

- A. Routine plant/department procedures and operations covering handling of hazardous waste.**

Reference:

- 1. Thermal Oxidizer operating manual**
- 2. Solvents Plant Relief Manual**
- 3. New Hire Manual**
- 4. Louisiana Division Safety & Loss Prevention Standards & References**

- B. The storage, operation and inspection of hazardous waste storage tanks.**

- C. General inspection for problems, operator errors, and discharges.**

- D. Emergency procedures considerations including plant/department role in the Hazardous Waste Contingency Plan.**

- 1. Plant layout (Solvents' Relief Manual)**
- 2. Safety and emergency equipment locations and proper operation (Solvents' Relief Manual).**
- 3. Use, inspection, replacement of block emergency and monitoring equipment (Solvents' Relief Manual and Louisiana Division Safety and Loss Prevention Standards)**
- 4. Block/Division communication and alarm systems, their location and use (Solvents' Relief Manual and Louisiana Division Safety and Loss Prevention Standards)**
- 5. Procedures and reasons for waste feed cutoff systems (Thermal Oxidizer Operating Manual)**
- 6. Shutdown of operations (Thermal Oxidizer Operating Manual and Solvents' Relief Manual)**
- 7. Power cutoffs (Solvents' Relief Manual)**
- 8. Block response to fires and explosions (Solvents' Relief Manual)**

TRAINING PROGRAM FOR PERSONNEL INVOLVED IN HAZARDOUS WASTE MANAGEMENT

D. Emergency procedures considerations, (continued)

9. Evacuation plan and route
10. Phone numbers of all plant/department contacts (Solvents' Relief Manual)

SIGNATURE

DATE

JOB TITLE

EXHIBIT 26

§ 9.8d(2)

JOB DESCRIPTION

Position: Shift Supervisor

Position's Responsibilities and Duties:

1. Supervises operators and reviews their performance.
2. Oversees day-to-day operation and maintenance of the incinerator components, and operational integrity of the unit.
3. Maintains facility compliance with RCRA regulations and other permits.
4. Maintains operating logs, monitoring records, maintenance records, inspection records, personnel training records, and all other required records.
5. Notify production engineer of any problems.
6. Trains operators in operational procedures, emergency actions, and responds to emergencies involving the incinerator.
7. Reports to plant superintendent.

TRAINING PLAN

APPENDIX C

VINYL II

The Vinyl II incinerator training program is to be designed to familiarize personnel with procedures for using and inspecting emergency and monitoring equipment. Repairing and replacing of this equipment is performed by other specialized departments, such as instrument, electrical, and fire protection. The training program also must include instruction on communication and alarm systems, responses to fires or explosions, response to groundwater contamination, and shutdown operations.

See Exhibit 10 for an outline of the training program (initial, annual, and temporary storages).

Records of personnel who have completed the program are kept at Vinyl II. A sample of the signature page is provided in Exhibit 10, Page 3,

The annual training program consists of a repeat of those items covered in the initial training program. Refer to Exhibit 10.

All documents and records covering the job titles listed below and the names of the employees filling each job are to be maintained at Vinyl II.

Personnel handling hazardous waste:

- Shift Supervisors
- Operations Specialists
- Senior Operations Technicians
- Operations Technicians
- Operations Technicians Trainees
- Technical Staff

All personnel listed above must receive the same training as shown in Exhibit 10.

Written job descriptions are to be maintained at Vinyl II. A sample job description is provided as Exhibit 11.

Training and job experience records are to be kept on file at Vinyl II. See Exhibit 10, Page 3.

**TRAINING PROGRAM FOR PERSONNEL
INVOLVED IN HAZARDOUS WASTE MANAGEMENT:
TEMPORARY (<90 DAYS) STORAGE OF HAZARDOUS WASTE**

PLANT/DEPARTMENT _____ **DATE** _____

1. Summary of Training

Personnel were instructed about the following topics:

- a. Routine plant/department procedures and operations covering handling of hazardous waste.
- b. The storage, design, operation and inspections of hazardous waste storage tanks according to LHWR Chapter 11. Tank labeling.
- c. The storage, condition, use and inspection of containers according to LHWR Chapter 12. Container labeling.
- d. General inspections for problems, operator errors, and discharges. The inspections will be conducted to be in compliance with LHWR 9.5.a.
- e. Emergency procedures considerations including plant/department role in the Hazardous Waste Contingency Plan.
 - 1) Plant layout.
 - 2) Location of possible hazards.
 - 3) Safety and emergency equipment locations and proper operation.
 - 4) Use, inspection, repair, replacement of block emergency and monitoring equipment.
 - 5) Block/Division communication and alarm systems, their locations and use.
 - 6) Procedures and reasons for waste feed cutoff systems.
 - 7) Shutdown of operations.
 - 8) Power cutoffs.
 - 9) Block response to fires and explosions.
 - 10) Evacuation plan and route.

PLANT/DEPARTMENT TRAINING CHECKLIST

INITIAL AND ANNUAL REVIEW

1. Hazardous waste management procedures
 - a. Proper storage, design, operation and inspection of tanks - LHWR, Chapter 11.
 - b. Proper storage, condition, use and inspection of packs (containers) - LHWR, Chapter 12.
 - c. Routine plant operation.
 - d. General inspection for problems and operator errors, discharges - conduct often enough to correct before hazardous waste release occurs - LHWR 9.5.a).
2. Emergency procedures considerations - plant/departement role in contingency plan - LHWR 9.8.a).
 - a. Plant layout
 - b. Locations of possible hazards
 - c. Safety/emergency equipment locations and proper operation
 - d. Use, inspection, repair, replacement of block emergency and monitoring equipment
 - e. Block/Division communication and alarm systems - location and use
 - f. Procedures and reasons for waste feed cutoff systems (tanks)
 - g. Shutdown of operations
 - h. Fever cutoffs
 - i. Block response to fires and explosions
 - j. Evacuation plan and route
 - k. Phone numbers of all plant contacts
 - l. Any other specific plant/departement critical information and procedures

3. I attended the training session, the content of which is summarized in Items 1 and 2 on previous pages. I understand all information presented.

Signature **Job Title** **Date**

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3. Trainer(s)

Signature _____ **Job Title** _____ **Date** _____

[illegible]

6/20/84
CT: sb

JOB DESCRIPTION

TOX AREA ENGINEER - The primary responsibility of the Tox Area Engineer is to assure safe, efficient and economical operation of the Vinyl II Hazardous Waste System. He also coordinates and plans maintenance activities in this area with the aid of the Vinyl II maintenance supervisor and is also responsible for the optimization and upgrade projects for this system.

TRAINING PLAN

APPENDIX D

ENVIRONMENTAL OPERATIONS

The Environmental Operations Incinerator Training Program is to be designed to familiarize personnel with procedures for using and inspecting emergency and monitoring equipment. Repairing and replacing of this equipment is performed by other specialized departments, such as instrument, electrical, and fire protection. The training program must also include instruction on communication and alarm systems, responses to fires or explosions, response to groundwater contamination, and shutdown operations. Training in all of these areas is to be conducted in several training sessions by plant personnel using a series of checklists. The program includes an annual mandatory training class. The checklists used in these programs include:

New Engineer Orientation Checklist (Exhibit 23)

Incinerator Operator Training Checklist (Exhibit 23-A)

New Employee Checklist (Exhibit 24)

Records of personnel who have completed the program are kept at Environmental Operations. A sample employee check is in Exhibit 24.

Facility personnel must take place in an annual review of the initial training.

See Exhibit 25 for sample training schedule.

The job titles for this facility are as follows:

- Plant Superintendent
- Production Supervisor
- Process Supervisor
- Environmental Supervisor
- Safety and Training Supervisor
- Maintenance Supervisor
- Waste Dispatcher
- Production Office Assistant
- Senior Environmental Technician
- Shift Supervisor
- Boardman
- Outside Operator
- Skidster/Pack Feed Operator

Written descriptions are to be maintained at Environmental Operations. A sample job description is provided as Exhibit 26.

All personnel listed in above must receive the same training as shown in Exhibits 23, 24, and 25.

Training and job experience records are to be filed by the safety and training supervisor and plant superintendent. Refer to Exhibit 27 for a copy of the record.

Environmental Operations Plant
Exhibit 23 - (9.8a) 3)
NEW ENGINEER ORIENTATION

Revision #1
August 14, 1985

1. NAME: _____
SUPERVISOR: _____

SAFETY: (SAFETY/TRAINING SUPERVISOR)

1. ISSUE SAFETY EQUIPMENT. EXPLAIN PURPOSE AND USE

2. POLICIES

- A. SEAT BELT
- B. SPEED LIMITS
- C. MOTORCYCLE HELMETS
- D. SMOKING
- E. CLOTHING
- F. RINGS
- G. SAFETY SHOES
- H. FACIAL HAIR
- I. SAFETY MEETINGS
- J. HORSEPLAY

3. PROCEDURES

- A. HOW EMERGENCIES ARE HANDLED
 - . 333 - WHEN AND HOW TO USE
 - . DIVISION ANNOUNCEMENTS
 - . SPILL MOST LIKELY TO AFFECT ENVIRONMENTAL OPERATIONS
- B. EMERGENCIES IN ENVIRONMENTAL OPERATIONS
 - . SPILL ALARM (SOUND ALARM)
 - . WHAT TO DO WHEN YOU HEAR ALARM
 - . POINT OUT WARNING LIGHTS
 - . SOUND BY ALL-CLEAR
 - . EVACUATION PLAN
- C. SAFETY SHOWER AND EYEWASH SYSTEM
 - . PURPOSE
 - . WHEN AND HOW TO USE
 - . OPERATE SHOWER AND EYEWASH
 - . EXPLAIN ALARM SYSTEM AND SHOW SCAN IN CONTROL ROOM
- D. SPECIAL SAFETY EQUIPMENT AREAS
 - . PURPOSE FOR AREAS
 - . IDENTIFICATION OF AREAS (SIGNS, BARRICADES)
 - . SHOW AREAS IN FIELD

REPORTING INJURIES

- . WHAT INJURIES YOU SHOULD REPORT
- . WHO YOU SHOULD REPORT TO

- F. S&P STANDARDS
 - . PURPOSE
 - . SHOW S&P BOOK
- G. RED TAG PROCEDURES/SAFE WORK PERMITS
 - . PURPOSE
 - . WHO ISSUES
 - . WHO REMOVES
- H. FIRE PROTECTION EQUIPMENT
 - . FIRE EXTINGUISHERS (LOCATION AND USE)
 - . SPRINKLER SYSTEM (LOCATION AND USE)
- I. UNSAFE CONDITION REPORTS
 - . HOW TO USE
 - . PROCEDURE AFTER WRITTEN
- J. SUGGESTION FORMS
- K. JOB OBSERVATIONS
- L. MANDATORY TRAINING

INTRODUCTION AND PLANT TOUR: (DARRYL SANDERSON)

1. DIVISION ORGANIZATION

2. PLANT ORGANIZATION

3. INTRODUCTIONS

4. TOUR OFFICE BUILDINGS

- A. KITCHEN
- B. BATHROOM
- C. LAB
- D. CONTROL ROOM
- E. FILE ROOM
- F. MAINTENANCE SHOP/MATERIAL CONTROLS

5. TOUR OUTSIDE AREA

- A. INSTRUMENT SHOP
- B. NEW SWITCHGEAR BUILDING
- C. WATER PLANT MCC
- D. FC-1/FC-2
- E. P-1 AREA
- F. REACTOR
- G. CLARIFIERS/FLOCCULATORS
- H. CHEMICAL STORAGE
- I. FILTER BUILDING
- J. TON SHACK
- K. TIPPING FLOOR

- L. PACK FIBER FLOOR/TRIM CRUSHER
- M. I-100/I-105
- N. I-200/I-210/D-220
- O. SCRUBBER
- P. TANK FARM/TRIPLE SUMPS
- Q. INCINERATOR MCC/COMPUTER ROOM

BLACK POLICIES: (STAN COLE)

- 1. PERSONAL ILLNESS/FAMILY ILLNESS
- 2. FUNERAL LEAVE
- 3. HOW AND WHEN TO REPORT ABSENCE & TARDINESS
- 4. VACATION/HOLIDAYS
- 5. TIME CARDS
- 6. MILEAGE REPORTS
- 7. WEEKEND CALL
- 8. PURCHASE REQUISITIONS
- 9. PASS-OUT FORMS
- 10. SUPERVISORS INVESTIGATION OF ACCIDENTS
- 11. OVERTIME MEALS
- 12. TRAVELING EXPENSE REPORTS

DIVISION TOUR: (DARRYL SANDERSON)

- 1. CREDIT UNION
- 2. BENEFITS/INSURANCE
- 3. CAFETERIA
- 4. ACCOUNTING/PAYROLL
- 5. PURCHASING/ENGINEERING
- 6. MEDICAL
- 7. FIRE STATION
- 8. ENVIRONMENTAL CONTROL
- 9. INSTRUMENT SHOP
- 10. STOCK
- 11. MACHINE SHOP
- 12. FABRICATION SHOP
- 13. WELD SHOP
- 14. AUSTRALIA POINT LANDFILL
- 15. NORTHWEST LANDFILL

OFFICE PROCEDURES: (MARY GENTILE)

- 1. ASSIGN OFFICE AND KEY
- 2. COPY MACHINE
- 3. OFFICE SUPPLIES
- 4. MAIL SLOT
- 5. TELEPHONE NUMBER AND USAGE
- 6. MESSAGES
- 7. SIGN OUT/IN BOARD
- 8. EMPLOYEE INFORMATION CARD

WER:

SHIFT ASSIGNMENTS

2. MAINTENANCE PROGRAM

- . MMR SYSTEM
- . WORK ORDERS
- . PURCHASE PROVISIONS
- . MATERIAL CONTROLLER/PARTS/VHSE

3. WASTE HANDLING

READING ASSIGNMENTS:

1. SELF STANDARDS AND REFERENCES.

S-101	S-105	R-2
S-201	S-309	S-3
S-205	S-312	R-4
S-206	S-310	R-7
S-301	A-1	R-8
S-302	A-7	C-1
S-303	A-9	C-2
S-304	R-1	C-6
		C-9
		C-10

PRESSURE VESSEL PROGRAM

1. LOUISIANA HAZARDOUS WASTE REGULATIONS
4. LOUISIANA SOLID WASTE REGULATIONS
5. INCINERATOR ENGINEERING DESCRIPTION (PART II PERMIT)
6. LOUISIANA DIVISION REACTIVE CHEMICALS PROGRAM

PERSONNEL:

STAN COLE	- PLANT SUPERINTENDENT
YIM MCMURRY	- PRODUCTION SUPERVISOR (WATER PLANT)
DARREL SANDERSON	- PRODUCTION SUPERVISOR (INCINERATOR)
REGGIE STEVENS	- PRODUCTION SUPERVISOR (LANDFILLS)
KURT CARLSON	- SENIOR PRODUCTION ENGINEER
HENRY DAVIS	- SHIFT SUPERVISOR
CARL LASTRAPES	- SHIFT SUPERVISOR
GREG O'NEAL	- SHIFT SUPERVISOR
BILL TEMPLE	- SHIFT SUPERVISOR
BILL LANE	- SAFETY/TRAINING SUPERVISOR
WYATT DODD	- ENVIRONMENTAL SUPERVISOR
JOE MARTINEZ	- MAINTENANCE SUPERVISOR
JOE PITSLATA	- INSTRUMENT DEPARTMENT SUPERVISOR
JOE WILLIAMS	- COMPUTER TECHNICIAN
MARY GENTILE	- SECRETARY
DIANA HORNE	- DISPATCHER
LINDA SMART	- ENVIRONMENTAL TECHNICIAN
LUCY MACK	- MATERIAL CONTROLLER

11. HOW DO YOU CHANGE WIRES THAT ARE BROKEN.

12. WHAT PROBLEMS ARE ENCOUNTERED AS RESULT OF BROKEN WIRE.

13. WHAT IS PURPOSE OF PUDGE. EXPLAIN ITS OPERATION.

14. WHAT IS PURPOSE OF TRANSFORMER (TRX-1-2) AND LOCATION.

D. W-231. DISCUSS THE FOLLOWING:

1. WHAT IS THE PURPOSE OF W-231?

2. EXPLAIN SOURCE OF MAKE UP WATER, LOCATION OF CONTROL VALVES, ETC.

3. HOW IS LEVEL CONTROLLED AND WHERE DOES WATER GO?

4. DESCRIBE THE OPERATION OF W-231, LOCATION AND FUNCTION OF ASSOCIATED EQUIPMENT, PUMPS, SCREENS, CONTROL VALVES, ETC.

5. HOW IS PH CONTROLLED, SOURCE AND EQUIPMENT?

6. WHAT IS OPERATING PRESSURE?

7. HOW IS DMS-1-2 WASH CYCLE RELATED TO W-231?

8. WHAT IS PROVIDED ON W-230, 231, AND 232 TO PREVENT WATER LEVEL FROM REACHING IONIZER SECTIONS?

E. IWS 3-4 DISCUSS THE FOLLOWING:

1. WHAT IS PURPOSE OF IONIZER 3 AND 4?

2. ARE THEY ANY DIFFERENT FROM 1 AND 2?

3. WHERE DOES PUDGE AIR COME FROM?

4. WHERE ARE THEY LOCATED?

5. WHERE IS CONTROL PANEL LOCATED?

F. W-232 DISCUSS THE FOLLOWING:

1. HOW IS SUMP LEVEL CONTROLLED?

2. WHERE DOES WATER GO?

3. WHERE DOES W-232 WATER MAKE-UP COME FROM?

G. BL-240 DISCUSS THE FOLLOWING:

1. WHAT IS THE PURPOSE OF BL-240?

2. BRIEFLY DESCRIBE OPERATION OF BL-240.

3. WHAT DOES EXCESSIVE VIBRATION INDICATE AND WHAT SHOULD YOU DO IF DETECTED? _____
4. WHAT SHOULD YOU DO IF BEARING CAPS ARE RUNNING HOTTER THAN NORMAL, AND WHAT WOULD HIGH TEMPERATURE INDICATE? _____
5. WHAT IS ST-240 AND ITS PURPOSE? _____

VI. I-100 SYSTEM

A. TRASH FEED. DISCUSS FOLLOWING:

1. EXPLAIN COMPLETE FEED CYCLE. _____
2. WHAT ARE THE RED, WHITE, AND GREEN LIGHTS ABOVE FEED CHUTE FOR. EXPLAIN EACH. _____
3. WHERE IS THE MANUAL FEED CONTROL STATION LOCATED. _____
4. EXPLAIN OPERATION OF CONTROL STATION. _____
5. WHAT IS PROVIDED TO REDUCE FIRE FLASHBACK FROM INCINERATOR TO FEED CHUTE AND EXPLAIN OPERATION. _____
6. WHERE IS FEED RATE CONTROLLED. _____
7. WHY IS IT IMPORTANT TO KEEP TRASH CLEARED FROM BEHIND FEED PAN AND TRASH HOPPER DOOR. _____
8. WHERE ARE MAIN FIRE SPRINKLER TRIPS LOCATED. _____
9. WHAT PERSONAL PROTECTION EQUIPMENT IS REQUIRED WHILE FEEDING INCINERATOR SYSTEMS. _____
10. HOW IS FIRE DOOR AND TRASH HOPPER LID SECURED FOR MAINTENANCE. _____

B. HYDRAULIC SYSTEM. DISCUSS FOLLOWING:

1. WHERE IS HYDRAULIC PACKAGE LOCATED. _____
2. EXPLAIN HYDRAULIC SYSTEM INCLUDING PUMPS, FILTER, COOLING FAN, PRESSURE CONTROL AND DIRECTIONAL VALVES. _____
3. WHAT TYPE OF FLUID IS USED IN SYSTEM AND SAFETY PRECAUTION IN HANDLING. _____
4. HOW DO YOU MANUALLY OPERATE DIRECTIONAL VALVES. _____
5. HOW DO YOU CHANGE FILTERS. WHEN. _____
6. KNOW HOW TO SHUT PUMPS AND WHAT POSITION SWITCHES SHOULD BE IN FOR NORMAL OPERATIONS. _____
7. WHAT PRESSURE IS RELIEF VALVE SET AT. _____
8. LIST EQUIPMENT THIS SYSTEM OPERATES. _____

C. **BURNERS AND BLOWERS**

1. **KNOW LOCATION, PURPOSE AND OPERATION OF FOLLOWING:**

- A) BR-100
- B) BL-100
- C) BR-101
- D) BR-102
- E) BL-102
- F) BR-103
- G) BL-103
- H) BL-103

2. **WHERE IS FUEL GAS CONTROLS LOCATED.**

--	--

B. **I-100 (PRIMARY CHAMBER) DISCUSS FOLLOWING:**

1. **WHAT IS PURPOSE OF I-100 (PRIMARY CHAMBER)**

--	--

2. **HOW IS TEMPERATURE CONTROLLED.**

--	--

3. **HOW IS FEED RATE CONTROLLED.**

--	--

4. **WHAT IS PURPOSE OF TUBES LOCATED IN I-100.**

--	--

5. **HOW ARE THEY PROTECTED FROM HEAT.**

--	--

6. **KNOW THE LOCATION, PURPOSE AND CONTROL OF FOLLOWING:**

- A) AS-101
- B) AS-102
- C) AS-103

7. **KNOW LOCATION AND PURPOSE OF ASH WIPERS.**

--	--

8. **WHAT LEVEL SHOULD ASH BE CONTROLLED. EXPLAIN HOW AND WHY.**

--	--

9. **WHAT IS PURPOSE OF OUTER SHROUD.**

--	--

10. **WHAT IS PURPOSE OF FIN TUBES LOCATED AT OUTER SHROUD ENTRANCE.**

--	--

11. **WHAT IS PROVIDED FOR OVER-TEMPERATURE PROTECTION. GIVE LOCATION AND OPERATION.**

--	--

12. **UNDER WHAT CONDITION IS ACCESS TO UNDERNEATH CHAMBER PERMITTED. WHY.**

--	--

13. **WHERE IS ASH REMOVED FROM CHAMBER AND WHY IS IT IMPORTANT TO KEEP LEVEL OF ASH AT DESIRED LEVEL.**

--	--

14. **WHY IS IT IMPORTANT TO RENINIZE WIRE AND METAL FED INTO UNIT.**

--	--

15. LOCATION AND OPERATION OF AR-101-102-103 MANUAL CONTROLS.

16. WHAT IS OPERATING TEMPERATURE.

E. 1-105 (SECONDARY CHAMBER) DISCUSS FOLLOWING:

1. LOCATION, PURPOSE, AND OPERATION.

2. KNOW COMBUSTION AIR FLOW AND CONTROLS.

3. WHAT CONDITION IS INSPECTION DOOR ALLOWED TO BE OPENED.

4. WHAT IS REQUIRED WHEN LOOKING THROUGH SIGHT PORT.

5. WHAT IS PURPOSE OF ST-105.

6. WHAT IS OPERATING TEMPERATURE.

7. WHAT TEMPERATURE DOES FEED SYSTEM LOCK-OUT.

8. WHAT DOES SMOKE FROM STACK INDICATE AND HOW IS IT CORRECTED.

9. HOW IS SECONDARY CHAMBER CONNECTED TO PRIMARY CHAMBER. LOCATION OF CONNECTION.

10. HOW DOES LOADING OF PRIMARY CHAMBER AFFECT SECONDARY CHAMBER.

F. ASH QUENCH AND REMOVAL. DISCUSS FOLLOWING:

1. DESCRIBE ASH QUENCH SYSTEM.

2. KNOW LOCATION AND CONTROL OF WATER SUPPLY.

3. WHERE DOES WATER FROM QUENCH TANK GO. SU-100.

4. DESCRIBE OPERATION AND CONTROL OF CV-100.

5. WHAT SHOULD ASH BE REMOVED FREQUENTLY FROM TANK.

6. HOW DO YOU FREE JAMMED CONVEYOR.

7. WHY SHOULD CONVEYOR NOT BE RUN BACKWARDS OTHER THAN SHORT DISTANCE (1-2 FT.).

8. WHERE IS QUENCH TANK INSPECTION DOOR LOCATED AND WHAT CONDITIONS CAN IT BE OPENED.

9. KNOW CONVEYOR HYDRAULIC SYSTEM LOCATION, CONTROL, AND PRESSURE.

10. HOW IS HYDRAULIC SYSTEM OPERATED MANUALLY.

11. WHAT PROBLEMS WILL SLACK IN CONVEYOR CAUSE?

6. COOLING WATER SYSTEM. DISCUSS FOLLOWING:

1. KNOW FLOW OF SYSTEM, EQUIPMENT, CONTROLS, PRESSURE, AND TEMPERATURE. _____
2. WHAT IS SOURCE OF MAKE-UP WATER? WHERE DOES IT TIE INTO SYSTEM. _____
3. WHAT IS PROVIDED FOR PROTECTION IF PUMPS FAIL? HOW DOES IT WORK. _____
4. HOW SHOULD PUMP BE SET UP FOR NORMAL OPERATION. _____
5. WHAT PRESSURE DOES STAND-BY PUMP COME ON AT. _____
6. WHAT IS PURPOSE OF COOLING WATER. _____
7. WHERE IS RELIEF VALVE ON SYSTEM LOCATED AND ITS PURPOSE. _____
8. WHERE IS VALVE FOR ASH REMOVAL SECTION SPRAYER LOCATED AND HOW MUCH SHOULD IT BE OPEN. _____
9. WHAT IS PURPOSE OF ASH REMOVAL SPRAYER. _____
10. KNOW HOW TO PURGE AIR FROM SYSTEM AND WHY. _____
11. WHAT IS PURPOSE OF SPLITTER VALVE UNDERNEATH PRIMARY CHAMBER. _____
12. WHAT IS PROTECTED BY COOLING WATER SYSTEM. _____
13. WHAT SHOULD BE DONE IF HOSE RUPTURES. _____
14. WHAT EFFECT DOES FIN TUBES ON I-100 HAVE TO COOLING WATER SYSTEM. _____

H. WASTE OIL STORAGE. DISCUSS FOLLOWING:

1. WHAT MATERIALS ARE STORED IN FOLLOWING TANK, WHERE DO THEY GO.
A. T-130 _____
B. T-250 _____
C. T-235 _____
D. T-135 _____
E. SA-130 _____
2. WHICH TANKS HAVE AGITATORS. _____
3. WHICH TANKS HAVE HEATING COILS? LOCATION? _____
4. WHICH TANKS ARE N2 PADDED? LOCATION OF CONTROLS? _____
5. WHAT IS SMALL TANK AND PUMP BETWEEN T-130 AND T-250 USED FOR? DESCRIBE. _____

6. WHAT IS REQUIRED BEFORE OFF LOADING INTO ANY TANK OR SUMP. _____
7. WHAT IS PROVIDED FOR OFF LOADING AND LOCATION. _____
8. WHAT BURNERS DOES EACH TANK HAVE CAPABILITY OF GOING TO. _____
9. WHY IS FILTERS PROVIDED. _____
10. HOW TO PUT PUMP IN SERVICE TO PUMP FROM TANK TO BURNER. _____
11. WHERE DOES DYKED AREA AROUND TANKS DRAIN TO AND WHY IS VALVE NORMALLY KEPT CLOSED. _____
12. WHAT DETERMINES HOW MUCH MATERIAL IS PUT INTO A TANK. _____
13. WHAT IS PROVIDED IN CASE OF FIRE AND LOCATIONS. _____

I. DIRECT BURNING SYSTEM. DISCUSS FOLLOWING:

1. HOW MANY DIRECT BURN STATIONS ARE THERE AND WHERE ARE THEY LOCATED. _____
2. WHAT BURNERS DO DIRECT BURN STATIONS GO TO. _____
3. WHAT EQUIPMENT IS PROVIDED AT EACH STATION. _____
4. WHAT IS REQUIRED BEFORE ANY VESSEL IS HOOKED TO DB STATION. _____
5. KNOW HOW TO HOOK UP AND PUT INTO SERVICE. _____
6. WHAT IS REQUIRED AFTER VESSEL IS EMPTY AND LINES DISCONNECTED. _____
7. WHERE IS GROUND DETECTOR UNITS LOCATED AND WHY IS IT IMPORTANT THAT VESSELS ARE GROUNDED. _____
8. WHAT IS PROVIDED IN CASE OF FIRE AND WHERE IS LOCATION. _____
9. HOW IS DB LINES UNPLUGGED. _____

1. SKILLS DEMONSTRATION

- | | | | |
|-----|------------------------------------|-------|-------|
| 1. | OPERATE FUNK TRUCK. | _____ | _____ |
| 2. | OPERATE SKIN STEER. | _____ | _____ |
| 3. | START-UP AND OPERATE DRUM UNIT. | _____ | _____ |
| 4. | TRASH FEED I-300. | _____ | _____ |
| 5. | OPERATE SKIN I-100. | _____ | _____ |
| 6. | PAK FEED LINE LOADING. | _____ | _____ |
| 7. | DIRECT BURN WOOK-UP. | _____ | _____ |
| 8. | OFF LOAD WASTE OIL. | _____ | _____ |
| 9. | OPERATE HYDRAULIC SYSTEM MANUALLY. | _____ | _____ |
| 10. | SNAP PUMPS (IN SERVICE). | _____ | _____ |
| 11. | SNAP OUT ASH BINS. | _____ | _____ |
| 12. | SNAP COMBUSTION AIR BLOWERS. | _____ | _____ |

B.J. MILAS
(REV: 7/25/85)
(INCOY. TRN)

ENVIRONMENTAL OPERATIONS
EMPLOYEE TRAINING CHECKLIST

ENVIRONMENTAL OPERATIONS NEW EMPLOYEE CHECKSHEET

Exhibit 24
§ 9.8b)

EMPLOYEE: _____

SUPERVISOR: _____

DATE: _____

SAFETY:

INITIALS
S/S : EMP

1. ISSUE BASIC SAFETY EQUIPMENT
2. EXPLAIN PURPOSE OF EACH
3. PUT ON AND ADJUST MONOGOGGLES
4. USE RESPIRATOR
5. USE HEARING PROTECTION

INTRODUCTION AND PLANT TOUR:

1. REVIEW DIVISION ORGANIZATION
2. REVIEW PLANT ORGANIZATION
3. INTRODUCE PLANT SUPERINTENDENT
4. INTRODUCE PLANT SECRETARY
5. INTRODUCE OPERATIONAL SUPERVISOR
6. INTRODUCE ALL ENGINEERS AND PLANT PERSONNEL
7. INTRODUCE SAFETY SUPERINTENDENT
8. TOUR BUILDING
 - _____ KITCHEN
 - _____ BATHROOM
 - _____ LAB
 - _____ CONTROL ROOM
 - _____ M C
 - _____ MAINTENANCE SHOP/MATERIAL CONTROLLER
9. TOUR OUTSIDE AREA
 - _____ INSTRUMENT SHOP
 - _____ COMPUTER ROOM
 - _____ REACTOR
 - _____ CLARIFIERS
 - _____ CHEMICAL STORAGE
 - _____ FILTER AREA
 - _____ ANALYZER BUILDING FOR INCOMING FLOWS
 - _____ DUMP FLOOR
 - _____ PACK FEED
 - _____ I-100
 - _____ I-200
 - _____ LIQUID WASTE STORAGE
10. ISSUE BASIC TOOLS
11. ASSIGN LOCKER AND STORE EQUIPMENT

POLICIES:

1. PERSONAL ILLNESS
2. FAMILY ILLNESS
3. FUNERAL LEAVE
4. HOW AND WHEN TO REPORT ABSENCE AND LATENESS
5. VACATION
6. TIME CARDS/SHEETS
7. PAY/DAY

SITE POLICIES:

1. SEAT BELT USE
2. SPEED LIMIT IN PLANT AND DIVISION
3. MOTORCYCLE HELMETS
4. SMOKING RESTRICTIONS
5. CLOTHING RESTRICTIONS
6. FING POLICY
7. SHOE POLICY
8. FACIAL HAIR POLICY
9. SAFETY HELMETS
10. HORSEFLA

DIVISION TOURS:

1. MEDICAL DEPARTMENT
2. LIFE STATION
3. CREDIT UNION
4. STOCK DEPARTMENT
5. MACHINE SHOP
6. FABRICATION SHOP
7. VALVE SHOP
8. CASSETTE
9. ENVIRONMENTAL CONTROL
10. LANDFILLS
11. GATES FOR EMPLOYEE USE

SAFETY PROCEDURES:

1. HOW EMERGENCIES ARE HANDLED
 - A. SEE - WHEN AND HOW TO USE
 - B. DIVISION ANNOUNCEMENTS
 - C. SPILL MOST LIKELY TO AFFECT ENVIRONMENTAL OPERATIONS
2. EMERGENCIES IN ENVIRONMENTAL OPERATIONS
 - A. SPILL ALARM (SOUND ALARM)
 - B. WHAT TO DO WHEN YOU HEAR ALARM
 - C. POINT OUT WARNING LIGHTS
 - D. SOUND AN ALL-CLEAR
3. SAFETY SHOWER AND EYEWASH SYSTEM
 - A. PURPOSE
 - B. WHEN AND HOW TO USE
 - C. OPERATE SHOWER AND EYEWASH
 - D. EXPLAIN ALARM SYSTEM AND SHOW SCAMS IN CONTROL ROOM
4. SPECIAL SAFETY EQUIPMENT AREAS.
 - A. PURPOSE FOR AREAS
 - B. IDENTIFICATION OF AREAS (SIGNS - BARRICADES)
 - C. SHOW AREAS IN FIELD
5. REPORTING INJURIES
 - A. WHAT INJURIES YOU SHOULD REPORT
 - B. WHO YOU SHOULD REPORT TO

S&LP STANDARDS

A. PURPOSE

B. SHOW S&LP POOL

7. PED TAG PROCEDURES/SEE WORK PERMITS

A. PURPOSE

B. WHO ISSUES

C. WHO REMOVES

8. FIRE PROTECTION EQUIPMENT

A. FIRE EXTINGUISHERS (LOCATION AND USE)

B. SPRINKLER SYSTEM (LOCATION AND OPERATION)

9. UNSAFE CONDITION REPORTS

A. HOW TO USE

B. PROCEDURE AFTER WRITTEN

JOB INTEGRATION AND WORK SCHEDULE:

1. EXPLAIN IN GENERAL WHAT JOB WILL CONSIST OF

2. EXPLAIN WORK SCHEDULE

REVIEW 12-HOUR SHIFT AND ISSUE SHIFT SCHEDULE

TELL EMPLOYEE WHEN TO REPORT BACK TO WORK

FILL OUT EMPLOYEE INFORMATION CARD (MAY)

WGLANT

11/84

(NEUEHPLC7.FRM)

1985 TRAINING SCHEDULE (MANDATORY)

MONTH	TOPIC	INSTRUCTOR	WHO ATTENDS	WHEN
JANUARY	HEARING PROTECTION	SUPERVISORS	ALL	ON SHIFT
FEBRUARY 13 th & 20 th	TOXIC CHEMICALS REACTIVE CHEMICALS INDUSTRIAL HYGIENE	L. DODD R. STEVENS D. KENNEDY	SHIFT SHIFT ALL	DAYS
APRIL	SCOTT AIR PAK / RESPIRATOR TRNG	SUPERVISORS	ALL	ON SHIFT
MAY	JLG / FORKTRUCK / SKID STEER CERTIFICATION	B. LANCE	SHIFT	SHIFT ON DAYS
JUNE 12 th & 19 th	HURRICANE PLAN REVIEW SPCC REVIEW FIRE EXT TRNG	SANDERSON SANDERSON FIRE DEPT	ALL ALL SHIFT	DAYS
SEPTEMBER 4 th & 11 th	EMERGENCY PLAN (BUCK & DIV) HAZARDOUS CHEMICAL LOAD/UNLOAD O ₂ / EXPLUSIMETER CERTIFICATION SAFETY WATCH	K. CARLSON R. STEVENS INST. DEPT SUPERVISORS	ALL SHIFT SHIFT SHIFT	DAYS
<p><u>ON SHIFT</u> - SUPERVISORS GIVE TRAINING AND SEND TRAINING SHEET TO SAFETY SUPERVISOR FOR FILE.</p> <p><u>SHIFT ON DAYS</u> - BILL WILL GIVE TESTS AND CERTIFY EACH OPERATOR ON DAYS DURING HIS SHIFT AS TIME PERMITS.</p> <p><u>DAYS</u> - SHIFTS COME IN ON THEIR DAYS OFF FOR TRAINING CLASSES. THERE WILL BE 3 DAYS THIS YEAR. THERE IS ONLY 2 CLASSES ON EACH TRNG SO YOU MUST ATTEND. THERE ARE NO MAKE-UPS.</p>				

JOB DESCRIPTION

ENVIRONMENTAL OPERATIONS JOB DESCRIPTION

Exhibit 26
§ 9.8d(2)

POSITION TITLE:	SP. ENVIRONMENTAL TECH.	INCUMBENT:	
DEPARTMENT:	ENVIRONMENTAL OPERATIONS	LOCATION:	BLOCK 80
SUPERVISOR:	LEONARD DODD	TITLE:	ENVIRONMENTAL SUPV
DATE:	6/15/84	PREPARED BY:	LEONARD DODD
CLASSIFICATION:	S.O.I.		

JOB SUMMARY:

THE SENIOR ENVIRONMENTAL TECHNICIAN WILL OBSERVE DAILY OPERATIONS OF LOUISIANA DIVISION LANDFILLS (3) AND WORK WITH CONTRACT SUPERVISION AT LANDFILLS TO INSURE THAT OPERATION IS CONDUCTED SAFELY AND WITHIN STATE AND FEDERAL REGULATIONS. THIS PERSON WILL BECOME TOTALLY FAMILIAR WITH REGULATIONS REGARDING THE OPERATIONS OF SOLID AND HAZARDOUS WASTE LANDFILLS.

THE SENIOR ENVIRONMENTAL TECHNICIAN WILL MAKE A DAILY INSPECTION OF WASTE MATERIALS WHICH ARE SCHEDULED FOR PICKUP IN THE DIVISION AND WILL ALSO LEAD ALL ASPECTS OF WASTE DISPATCHES & JOBS (DISPATCHING, DAILY AND MONTHLY RECEIVING, ALL COMPUTER OPERATIONS, OUT OF STATE CORRESPONDENCE).

SPECIFIC DUTIES:

1. HANDLE ROUTINE SAMPLING OF RUN-OFF WATER FROM LANDFILLS.
2. MAINTAIN ROUTINE INSPECTIONS OF LANDFILLS.
3. COVER SAFETY RESERVER DUTIES AS REQUIRED BY LANDFILL OPERATIONS.
4. MAINTAIN LANDFILL DISPOSAL RECORDS AND MAPS.
5. RESPONSIBLE FOR THE SCHEDULING OF "ROUTINE" VACUUM TRUCK SERVICE TO THE DIVISION.
6. HANDLE SPECIAL DISPOSAL PROBLEMS SUCH AS BURNING OFF HAPPC GAS CYLINDERS AND SPECIAL LAB CHEMICAL DISPOSAL.
7. COVER FOR DISPATCHER DURING VACATION OR PERSONAL ILLNESS.
8. HANDLE ASSISTANCE DAILY TO ALL DEPARTMENTS IN CORRECTING PACKAGING AND DISPOSAL PROBLEMS.
9. MAINTAIN GOOD PUBLIC RELATIONS BETWEEN THE ENVIRONMENTAL OPERATIONS DEPARTMENT AND THE DIVISION.
10. INSURE THAT SALVAGABLE MATERIAL IS SENT TO THE SALVAGE YARD.
11. MAINTAIN AND ASSIST IN THE OPERATION OF THE DIVISION SALVAGE YARD.
12. MAINTAIN CLOSE CONTACT WITH PLANTS DURING SHUTDOWNS TO INSURE A QUICK RESPONSE TO THEIR DISPOSAL NEEDS.
13. MAINTAIN CLOSE CONTACT WITH THE ENVIRONMENTAL OPERATIONS PLANT OPERATION, INVENTORIES, EQUIPMENT STATUS, AND PARTICULAR ATTENTION TO PROCEDURES.
14. PAY SPECIAL ATTENTION TO HOW WRITTEN PROCEDURES ARE BEING EXECUTED IN THE FIELD. SOME OF THESE PROCEDURES ARE VACUUM TRUCK PROCEDURES, DTA PROCEDURES, LANDFILL PROCEDURES, LOADING PROCEDURES, ENVIRONMENTAL GUIDELINES, WEIGH TICKET INSTRUCTIONS. FEEDBACK IS EXPECTED ON OUR PERFORMANCE IN ADHERING TO THESE PROCEDURES AND ON PRACTICAL WAYS WE MAY IMPROVE OUR PERFORMANCE.

HOW:

JOB REQUIREMENTS:

MINIMUM G.I. CLASSIFICATION

TRAINING AND EXPERIENCE:

EDUCATION: BACKGROUND DESIRABLE AND HELPFUL BUT NOT MANDATORY. TRAINING WILL BE ACCOMPLISHED ON-THE-JOB WITH THE AID OF REGULATION HANDBOOKS AND PROCEDURE NOTEBOOKS.

HUMAN RELATIONS:

THE SENIOR ENVIRONMENTAL TECHNICIAN WILL COME IN CONTACT WITH A BROAD CROSS-SECTION OF PEOPLE IN THE DIVISION EACH DAY. HE MUST AT ALL TIMES MAINTAIN A PLEASANT PROFESSIONAL MANNER AND A COOPERATIVE ATTITUDE TOWARDS THE PEOPLE HE IS DEALING WITH.

PROBLEM SOLVING:

COMPLEXITY OF DUTIES:

EFFECTIVELY INTERACT WITH WASTE GENERATORS IN THE DIVISION TO MAINTAIN WASTE MOVEMENTS AND INSURE THAT THESE MOVEMENTS ARE WITHIN STATE OF CALIFORNIA REGULATIONS FOR A WIDE VARIETY OF WASTES, SOME OF WHICH PRESENT UNIQUE PROBLEMS.

INITIAL EQUIPMENT:

THIS PERSON WILL HAVE TO EVALUATE CONDITIONS AND MAKE DECISIONS IN THE FIELD ON THE MOVEMENT OF WASTE MATERIALS. THESE EVALUATIONS AND DECISIONS WILL BE BASED ON THE ENVIRONMENTAL STANDARDS AND SEGMENTS OF THE STATE WASTE REGULATIONS, BUT NOT EVERY WASTE WILL EXACTLY FIT THE STANDARD DESCRIPTION.

ACCOUNTABILITY:

SEGMENT, REVIEW AND APPROVAL OF WORK:

ACCOUNTABILITY IS DIRECTLY TO THE ENVIRONMENTAL SUPERVISOR. THIS PERSON HAS MAJOR FLEXIBILITY IN SCHEDULING HIS TIME AS NEEDED TO MAINTAIN A SMOOTH FLOW OF MATERIAL IN THE DIVISION.

WORKING CONDITIONS:

MENTAL EFFORT REQUIRED:

MINIMAL PHYSICAL EFFORT IS REQUIRED.

OFFICE ENVIRONMENT:

APPROXIMATELY 25% OF THE TIME WILL BE SPENT IN AN OFFICE ENVIRONMENT. THIS WILL INCLUDE TIME FOR TELEPHONE COMMUNICATIONS AND COMILING RECORDS.

SAFETY CONDITIONS:

SAFETY KNOWLEDGE AND AWARENESS ARE VERY IMPORTANT. THIS PERSON WILL BE VISITING ALL AREAS IN THE DIVISION AND MUST ABIDE BY EACH DEPARTMENT'S INDIVIDUAL SAFETY REGULATIONS. HE WILL ATTEND THE MONTHLY GROUP SAFETY MEETINGS.

ENVIRONMENTAL OPERATIONS
SAFETY & TRAINING DOCUMENTATION

ENVIRONMENTAL OPERATIONS
TRAINING DOCUMENTATION

Exhibit 27
§ 9.8d(4)

DATE: _____

TRAINING SESSION NUMBER: _____

TRAINING SUBJECT: _____

INSTRUCTOR: _____

SAFETY MEETING: S&LP # _____ BY: _____

TITLE: _____

SR # _____ BY: _____

TITLE: _____

COMMENTS: _____

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

(KEEP THIS RECORD THREE (3) YEARS)

WGLANE:3/84
(STDOC.FRM)

TRAINING PLAN

APPENDIX E

NORTHWEST LANDFILL

This procedure is to be used in the initial training of all new employees and in the annual review for existing employees. Employees affected by this procedure will only be those actively involved in the handling of hazardous waste going to the landfill and those involved in the operation of the hazardous waste landfill. See Exhibit 5 for an outline of the training manual.

Employees with the following job titles are responsible for handling hazardous waste at this facility:

Environmental Operations, Production Supervisor
Environmental Operations, Environmental Supervisor
Environmental Operations, Senior Environmental Technician
Landfill Attendant

Job descriptions must be maintained in Environmental Supervisor's office at Environmental Operations (NWLRF file). Training of employees responsible for the operation of NWLRF is to be accomplished by the use of a training checklist and training manual.